Selected Papers in School Finance 1976

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PREFACE

This third volume of Selected Papers in School Finance includes reports on equity in school financing, the impact of declining school enrollments on financing, and a survey of tax requirements relating to local school finance.

Equity in the financing of public schools -- as regards pupils and taxpayers -- remains a central issue in the United States today. Three papers consider this problem in depth through reviews of the revised school finance programs in Kansas, Michigan, and New Mexico. Kansas and Michigan distribute State aid under distinct variations of district power equalizing formulas, in which the former State guarantees to each district a budget level and the latter guarantees a dollar yield for a specified number of mills. In New Mexico, a foundation aid program with pupil weightings is in effect which represents the closest approximation to full State funding existing in the continental United States today. Another paper reports on a national survey of the financing of school construction. Each of these papers directly addresses the manner in which States are resolving questions relating to school finance equity. These papers illuminate some finance problems and equity issues and are published here as a means of promoting equity in the financing of public schools.

A report on a survey of State and local responses to declining enrollments appears in this volume because of the fiscal consequences often associated with these declines.

The final paper summarizes a survey of tax requirements and constraints on the local financing of public schools. This survey was undertaken in response to numerous enquiries received on this subject.

Esther Tron
Project Monitor

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AN ANALYSIS OF THE KANSAS SCHOOL DISTRICT EQUALIZATION ACT OF 1973*

INTRODUCTION

This report is a product of one of three studies of major state reforms in school finance which occurred in 1972-73. It is specifically addressed to an analysis of the Kansas School District Equalization Act of 1973 and subsequent amendments.

In order to produce a separate analysis of the new state aid plan in Kansas, and to provide a basis for comparative analysis of the three separate state plans, a fairly consistent breadth of coverage, method of analysis, and framework for the presentation of findings have been adopted for the three studies and are followed in this report.

The conditions that prevailed before the 1973 law, the purpose of the reform, and the major provisions of the statute are described and an analysis of the statewide and local effects of the act are presented. This analysis is particularly concerned with the consequences of the law as evidenced by a comparison of the condition of Kansas school finance prior to and since the enactment of the new finance plan. The report concludes with a short statement of the implications of the Kansas experience.

Support was provided by the Bureau of School Systems, the Office of Education, and the United States Department of Health, Education, and Welfare. Anyone working in the area of Kansas school finance soon comes to owe a considerable debt to Mr. Richard Ryan of the Kansas Legislative Research Department and to Mr. Dale Dennis of the School Finance and Statistics Division, Kansas Department of Education; it is no less the case for this study than for others. At the University of Kansas, assistance was provided by the Institute for Social and Environmental Studies. Of course, none of these groups is responsible for this report's shortcomings.

DESCRIPTION OF THE LAW

This part of the report contains a brief description of the conditions that prevailed prior to the 1973 law. With that background a detailed analysis of major provisions, particularly financial provisions, is presented. Special attention is paid to the control the state exercises over local expenditures, the legal challenges that have been made to the law, and the amendments to the basic law. A concluding section offers some generalizations about the character of the Kansas statute.

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Conditions Prior to the Law

At one time, Kansas had a wide variety of separate, categorized, school aid plans, 17 formulas for different purposes. In 1965, some of these plans were consolidated into the School Finance Foundation Plan which significantly increased the amount of state aid and distributed it more equally. This plan was fairly typical of foundation plans of the period. It is important to note that during this era the Kansas legislature was still malapportioned; most of the wealthy school districts were in small counties. Thus, the 1965 act and subsequent acts represented political compromise, not financial equity. At about the same time, a positive development was occurring in Kansas; school consolidation was being carried out under the School District Reorganization Act of 1963. Almost 2,000 districts were eliminated.[1]

Under the 1965 Foundation Plan, the state aid guarantee was dependent on five elements: enrollment, certified employees, pupil/teacher ratios, teacher training, and teacher experience.[2] The last two elements were combined and called the school district's "Criteria of Quality." This procedure created pressure on the districts to base salary increases on teacher training. Enrollment had been declining steadily for several years, state aid was dropping sharply in a period of rapidly rising school costs, and the local property tax contribution to public education was rapidly increasing.

The state exercised strong fiscal control over local educational expenditures. School districts were prohibited from spending in any year more than 104 percent of the amount spent the preceding year on per pupil operating expenditures. The severity of this limitation was greatly reduced by the numerous bases for appeal, including a vote by the district's residents.

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[1] By 1972-73 school consolidation had gone forward so that there were 311 school districts in the state. Only one school district is coterminous with county boundaries. Some districts have territory in as many as five separate counties, and more than half of the districts include parts of two or more counties.

[2] Technically, the state guarantee was calculated as follows: (1) divide by 30 the total number of semester hours of college training of all certificated employees of the district (not to exceed two hundred and ten hours for any one employee); (2) multiply by 0.2 the total number of years of teaching and administrative experience of all certificated employees of the district (not to exceed fifteen years for any one employee); (3) multiply the sum of (1) and (2) above by seven hundred and sixty dollars, and multiply the product by the district's pupil-teacher ratio factor, which was determined by pupil-teacher ratio and minimum requirement of the pupil-teacher ratio. For districts whose pupil-teacher ratio is less than the minimum requirement, pupil-teacher ratio factor is the district's pupil-teacher ratio divided by the required minimum pupil-teacher ratio which is dependent upon the size of school district.

Local ability or effort was defined in terms of a county economic index. The index was the sum of the assessed, tangible property valuation adjusted to the state average assessment ratio and the school district's home county's taxable income from state individual income tax returns, expressed as a percentage of the state total for these factors. County ability was computed by applying this percentage index to the amount of revenue which would be produced by a 10 mill levy on all tangible property in the state. The county ability figure was distributed among school districts on the basis of each district's share of certified teachers. This amount was then deducted from the basic entitlement or guarantee provided from the state general fund.

By including income in the measure of ability, counties were being either rewarded or penalized for their income, even though the districts did not directly receive any revenue from the state income tax. In addition, because the economic index was applied at the county level, all school districts in a county were treated as having the same ability. Districts, which if the index were calculated on a district rather than a county basis would have a low index, were penalized if they were located in a county with a high index. These became major matters of concern in the court scrutiny of the 1965 Foundation Plan.

There was a source of funds for the local school that was not equalized in the plan but was simply an additional revenue source to school districts. These funds were generated from a required 10 mill county levy. School districts located in one county received revenue from the county levy primarily on the basis of their share of the county's number of certified teachers; in multicounty districts additional consideration was given to each district's pupils. It should be noted that large single-county districts benefited from the per pupil distribution and small multicounty districts benefited from the teacher distribution. Nonetheless, a major amount of intracounty equalization occurred due to the countywide levy.

In 1967-68, almost one-third, 31 percent, of the school children in Kansas were enrolled in districts which varied only $10 from the median foundation aid per pupil, while 92 percent of school children resided in districts which varied only $50 plus or minus the median foundation aid per pupil. Thus, under the Foundation Plan the state aid essentially amounted to a flat grant; the degree of intercounty or interdistrict equalization was quite low.

Between 1965 and 1973 a number of studies which made the inequities of the 1965 Foundation Plan quite clear were prepared and widely circulated. At the same time, statewide efforts were underway to change the basic local educational support from property to income. The Kansas Livestock Association and Kansas Farm Bureau Association were leaders in this effort. By 1970, the 1965 Foundation Plan was held in low esteem. A

need to increase state aid was felt and additional state aid was being provided through a supplemental plan.[3] Legislative study went on, and the 1972 session resulted in a district power equalizing plan submitted by the Special Joint Committee on School Finance. This full equalization plan with recapture was considered but rejected.

At the same time that this legislative reform effort was underway, the existing distribution formula was under attack in the courts. It can be claimed that Kansas modified its school finance plan without being under court order. Yet, it also can be argued that the court cases encouraged legislative action. The 1973 act is the result of work which began before the *Serrano, Rodriguez,* and *Caldwell* court cases; it is noteworthy that the act became law after the U.S. Supreme Court reversed the federal district court decision in the *Rodriguez* case.

Purpose

The Kansas School District Equalization Act of 1973 began in the Senate Education Committee as Senate Bill 92. It found early support from education groups such as the Kansas Association of School Boards, the Kansas Congress of Parents and Teachers, the Kansas Association of School Administrators, and the Kansas-NEA.

The act was designed to produce equalization of school district expenditures and tax levies by (1) giving more general state aid in relation to the general fund budgets to school districts with low wealth per pupil and (2) reducing the relatively high general fund tax rates of districts with low per pupil expenditures and wealth. This was to be accomplished through funding the current budget for each school district at the level of the median district from three categories based on enrollment. Power equalization was incorporated for those districts which wished to spend more or less then the average district in their same size class. The level of state funding for elementary and secondary school current operating expenditures was set at about 50 percent. State fiscal control was exercised through a budget control which could be exceeded in any year by a vote of the school district electors to a limit of 115 percent per pupil or to the highest per pupil budget in its enrollment group.

Each school district was guaranteed the difference between its legally adopted budget and the amount produced by its local effort. The budget control, district categories, etc., did not make this plan district power equalizing, for these features also can be part of an

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[3] This aid plan provided a basic entitlement of $71.70 per pupil plus $1,240 per certified employee times an index based on the school district's adjusted assessed valuation. This index was equal for all school districts with valuation exceeding $18,000 per pupil. This required a negative relationship between district mill levies and valuation per pupil.

unequal foundation program. This equalization only occurs through the level of state support and the particular definition of local effort.

One of the major objectives of the act wes to close, over a period of time, the gap in the budget per pupil among districts in the same enrollment category. Districts with already high budgets per pupil were restricted to a five percent annual increase while those with low budgets per pupil were permitted to raise them by 15 percent per year. It was felt that a 15 percent annual increase was the maximum a low-expenditure district could economically and efficiently use.

The purpose of the law was clearly stated by one commentator; in the *Caldwell* case, the court quoted as part of its memorandum from an argument advanced by the state.

> The School District Equalization Act is perhaps the most significant public school finance law ever enacted in Kansas. It is an effort by the legislature to increase the amount of state aid to public schools, provide property tax relief, equalize property tax rates, and reduce the substantial variation in operating expenditures per pupil and educational opportunities among school districts throughout the state.

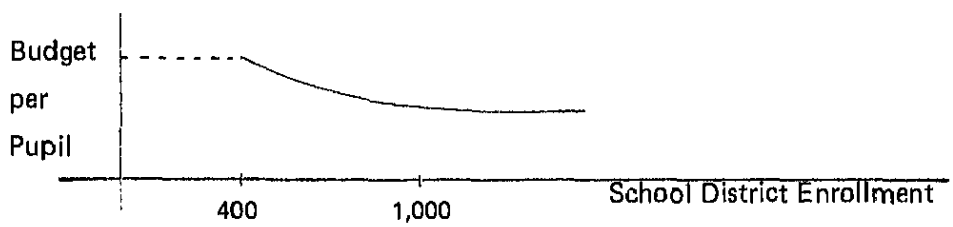
Principal Provisions

In order to describe the principal provisions of the 1973 law, it is simplest to go through the steps necessary to determine general state aid under the statute.

The computation of a school district's general state aid consists of three steps:

1. Determine the district's legally authorized general fund budget.
2. Subtract local effort consisting of:
   a. district wealth times the district's local effort rate,
   b. receipts in the preceding school year under P.L. 874,
   c. district's share of the county school foundation fund, and
   d. district's shere of the intangibles tax.
3. The difference is general state aid (if negative, the aid is zero).

A district's legally authorized general fund budget is determined by the per pupil guarantee which is calculated by arreying all school districts in the following type graph.



Data for 1972-73 expenditures by district showed a general negative relationship corresponding to observed high costs faced by small districts in maintaining a fully accredited educational program. A curve of "best fit" was to be computed each year by the State Board of Education. A graphic presentation of the data is made by the Board and, without a sophisticated mathematical procedure, the relationships are simply "read" from the graph. Rather than compute one curve for all districts, three separate curves for different enrollment sizes are required; more are permitted. In 1973-74, the upper group for enrollments of 1,300 and over, was established because the "line of best fit" appeared to vary only slightly for districts above 1,300 pupils. The lower boundary for all districts, less than 400 pupils, was established under the law and is a reflection of an unwillingness to employ state aid to subsidize the high level of per pupil expenditures in the very small districts. A transition was provided in the 400 to 1,299 enrollment category to make a gradual adjustment between the upper and lower bounds and to prevent abrupt changes in the guarantee per pupil. The specific aid level adopted for the 1973-74 school year was:

Enrollment of the district (E)	Budget per pupil	Adjustment
Under 400	$936	none
400 to 1,299	936	-$.2311 (E-400)
1,300 and over	728	none

As school budgets change at different rates so do the enrollment categories, the budgets per pupil, and the adjustments. For example, the aid level for 1975-76 was:

Enrollment of the district (E)	Budget per pupil	Adjustment
Under 400	$1,223	none
400 to 999	1,223	-$.4033 (E-400)
1,000 and over	981	none

To the extent that cost differences are recognized, this formula is similar to one which had been satisfactorily employed since 1965 for the calculation of transportation aid. The use of district enrollment in relation to pupil expenditures provides the only weighting in the 1973 act.

Within limits, a school district is permitted to determine its own budget. No district is permitted to budget less than $600 per pupil for operating expenses. The upper boundary is established by limiting the rate of increase in the per pupil budget as described below.

After determining the general fund budget, which is legally authorized, deductions must be computed. The first of the four local effort components defined under the 1973 law is the local effort rate which is 1.5 percent of the district wealth. When a district's budget differs from the per pupil authorized budget, the local effort percentage is proportionally adjusted from the standard 1.5 percent to the amount by which the district's budget deviates from the standard per pupil budget. Thus, if a school district in the smallest of the three enrollment categories where the allowable budget per pupil is $936, wishes to spend $1,872 per pupil, its deduction for local effort would be 3.0 percent or twice the standard local effort rate of 1.5 percent. This is *the* power equalizing feature of the formula.

District wealth is defined in the law as the total of the district residents' income and the valuation of taxable tangible property adjusted to the statutory required 30 percent assessment ratio. Two peculiarities in Kansas made possible the use of income as a wealth determinant. First, because of strong political interest, a 1973 statute made it mandatory that each taxpayer identify his school district on his Kansas individual income tax return. Second, all Kansas school districts are K-12 districts; all districts are operating schools.

The 1965 Foundation Plan, which originally provided for the deduction of 25 percent of P.L. 874 aid, was ruled unconstitutional by a federal district court in Kansas in *Hergenreter v. State of Kansas*. The U.S. Congress subsequently legislated a prohibition on the deduction of P.L. 874 funds. The 1973 law required the deduction of all P.L. 874 from the basic state entitlement as the second deduction. Congress exempted Kansas for one year but the issue may arise at any time, perhaps in the form of new HEW guidelines.[4] The possibility of federal and state conflict is a natural consequence of a sharply equalizing aid plan in a state where some school districts receive a substantial portion of their budgets through "federal impact" aid.

The Kansas legislature was aware of the legal problems involved in its approach but felt it important not to distort the equalization principles of the general state aid formula, and

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[4] The magnitude is also illustrated by the estimate that the added 1975-76 cost to the state under the school finance law would be about $7.0 million (excluding Fort Leavenworth) if this deduction were not permitted.

to proceed with its own concept of equalization in spite of the difficulties that may be caused by federal roadblocks. The magnitude of the problem was crucial for a number of school districts. For example, if such funds were not included in local effort, Derby and Junction City school districts, which encompass major Kansas military installations, would not have had a tax levy for their general fund and would have had, due to the corresponding increase in state aid, more revenue than they could legally have spent under their budgets.

If these federal funds were not employed as deductions, the local districts receiving state aid would find that their aid would increase by an amount equal to their P.L. 874 receipts.

The importance of the P.L. 874 aid can also be illustrated by noting that in 1975-76, 89 of the 307 Kansas school districts shared in the $7.3 million of these federal funds. For most districts the amounts are relatively small; in 27 districts the federal aid was less than 1.0 percent of the district's general fund budget and in 78 districts it was less than 5.0 percent. Then for only 11 districts, in which the aid was 5.0 percent or more of the general fund budget, the aid was a significant portion of the school budget. Five districts received more than 10.0 percent of their budgets from this federal aid.

The 1973 law reduced the county school foundation levy from 10 mills to the dollar equivalent of a two-mill levy on 1971 adjusted valuation. But the distribution formula remained unchanged. The mill levy amount derived became the third deduction from the state aid. By pegging the dollar amount of the levy to the 1971 adjusted valuation, the actual tax rate necessary to produce the amount required declines as valuation increases. Minor equalization occurs among school districts located in a few counties in which no school district receives state equalization aid.

The amount that school districts deduct depends on how much money is raised by the countywide levy and on how much each district in the county is entitled to from that fund. Even if the levy produced the same amount in two counties, the shares of the school districts in these counties could vary according to the number of districts therein and the number of certified employees in each. This reflects some of the variation between state aid ratios and per pupil wealth.

The fourth component of local effort is the district's share of the state intangibles tax. The largest impact of the inclusion of this share occurred in the Shawnee Mission school district, a district which includes much of the high income/wealth areas of the Kansas City Metropolitan Area. For this district, the 1973-74 deduction was $885,478, without which its state aid ratio would have been almost 32 percent, as compared to 29 percent under the current formula.

Other Financial Features

In addition to the determination of state aid presented above, the 1973 law contained other features affecting public school finance in Kansas. The most important of these are outlined in this section.

Rebate: As has been described, between 1965 and 1973 there was considerable pressure building in Kansas to reduce the local reliance on the property tax. In its original Senate form, the 1973 law provided that, with voter approval, school districts could levy a local income tax to supplement the state income tax. The Kansas House balked at this proposal and instead introduced a system of shared revenue, the procedure of rebating a portion of the state individual income tax to school districts on the basis of taxpayer residence. The 1973 law provided that school districts shall be entitled to 10 percent of the state individual income tax liability of their residents, after deducting credits for income taxes paid to another state. The effect of this rebate is to give all school districts a new source of nonproperty tax revenue for their general funds.

LAVTRF: Since 1937, Kansas has had a Local Ad Valorem Tax Reduction Fund (LAVTRF). As its name implies, its purpose is to reduce the local property tax; this is accomplished by crediting certain state revenues to the fund for distribution to local governments.

Prior to 1973, school districts shared with other units of local government in 10 percent of the state sales tax through the LAVTRF. In 1973, however, this school district sharing, which was about 55 percent of locally shared revenues, was discontinued. The state retained the approximately $11.6 million in the school equalization fund for funding of the 1973 law. In effect, the school district's share of the LAVTRF is used to help finance state aid under the 1973 law.

Fees, fines, and forfeitures: Prior to 1973, any fine levied under the penal laws of the State of Kansas was deposited in the school fund of the county in which the fine was exacted, and the amount in the fund was distributed to the school districts in that county. Under the 1965 Foundation Plen, these fine revenues became deductions from general state aid. The 1973 law changed the disposition of these funds to the state school equalization fund where they are used as a source for state aid. The consequence of this change is that it reduces the available funds to those few school districts which would have received more from their shares of the fine revenue distributed from the county school fund than they receive in total from the 1973 law.

Other taxes and fees: The state-administered, motor carrier property tax, specified insurance company fees and certain royalities helped finance state aid; this was continued in the 1973 law.

Local Control

There are no state imposed levy limitations on property taxes levied by Kansas school districts for their general fund nor are there statutory budget controls applicable to other funds of a school district. Some funds, such as special education and vocational education, are subject to property tax rate limitations prescribed by law, but others, such as Social Security and Workmen's Compensation, are not restricted.

State control is exercised through budget control. Under the 1973 law, this control applies only to the general fund budget and limits the yearly increase to five percent per pupil. Because of the wide variation in school expenditures which were the result of earlier levy limitations and budget control, some districts were authorized to increase their per pupil budget by as much as 15 percent per year and by more than that amount if an appeal is approved.[5]

For purposes of determining budget limitations, the same three enrollment categories used in the determination of per pupil guarantees are employed: under 400 students; 400 to 1,299 students; and 1,300 students and over. If a particular school district has a per pupil budget below the median of its size category, the district is permitted to increase its budget by as much as 15 percent depending on its shortfall relative to the median. This permits the low expenditure districts in each enrollment category to narrow the gap over a period of years.

A further element of local control was introduced by permitting *any* school district to raise its budget per pupil to that of the district with the highest budget per pupil in its enrollment category to a limit of 15 percent by a vote of the electors of the district.

The influence of the limits on school district expenditure increases is illustrated by the data presented below. These data relate to authorized general fund increases in budget per pupil and omit adjustments resulting from declining enrollments or appeals. The one large increase in 1973-74 was the result of one district being required to increase its budget per pupil in order to reach the required minimum of $600 per pupil.

The law provided a further element of flexibility by permitting school district administrative appeals to the State Board of Tax Appeals. Besides appeals required for transition purposes which were permitted only in 1973, three additional authorized grounds for appeal were established: (1) increased operating expenses due to the construction of new or expansion of existing school facilities, (2) the cost of state mandated special education programs, and (3) the statutory requirements for out-district tuition for vocational education and the requirements of contractual agreements for payments to an

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[5] Unused budget authority may be accumulated over the years, and within the 15 percent limit, used at the discretion of the school district.

Table 1
Number of School Districts by Authorized Budget Increase
1973-74 to 1975-76

1973-74		1974-75		1975-76	
Authorized increase	Districts	Authorized increase	Districts	Authorized increase	Districts
5%	179	7%	182	10%	186
5%-7.5%	17	7%-10%	18	10%-12%	23
7.5%-10%	18	10%-15%	47	12%-15%	37
10%-15%	29	15%	62	15%	62
15%	66				
Over 15%	1				
TOTAL	310	TOTAL	309	TOTAL	308

area vocational school. In 1974 a transitional appeal basis was made permanent: (4) the requirement to provide transportation for students, and an additional basis was added; (5) in cases where unusual occurrences affect enrollment (such as the closing of a military installation).

Behind the state support for budget control was the desire to limit expenditures at the local level since the substantial increases in state aid, particularly in 1965, did not result in a substantial decline in the rate of increase of property taxes. At a time when the state was following an austere but adequate budget rule, local school districts were seen by some to be spending with less stringent control.

Another feature of the budget control, a formula for adjusting the legal maximum budget, was included in the 1973 law. It resulted directly from the fact that most Kansas school districts were experiencing declining enrollments. Kansas legislators believed that it would be impractical to require school districts to reduce their budgets in direct proportion to enrollment decreases since student loss does not usually allow such a directly proportional budget reduction. For each enrollment category, a "normal" enrollment decline was defined as 10.0 percent for districts with less than 400 students; 7.5 percent for districts in the middle enrollment category; and 5.0 percent for districts in the largest enrollment category. When the enrollment decline is equal to or less than "normal", the district is permitted to budget as much as it did the previous year. If the decline is any larger

than "normal," the budget must be adjusted downward based upon actual reduced enrollment for the current year.

This control over the growth of school district budgets is aimed at narrowing expenditure differences over time. Very few districts have excess budget increase capacity. That is, almost all districts have increased their budget per pupil to the full extent permitted. Between 1973 and 1976 less then a dozen school districts have increased their budgets by less than the authorized amount. In most cases these actions were the result of local controversies—particularly between the school board and teacher organizations.

An appeal procedure produced a rather liberal level of state approval. For example, for 1973-74 budgets of the $5.8 million requested, 97.3 percent was granted by the State Board of Tax Appeals; in 1974-75, the reduced number of bases for appeal produced $5.1 million requested and 94.0 percent granted. It should be noted that since 1973, only a few budget votes of the people occurred. In about a dozen cases, the citizens voted to subject themselves to greater local property taxes in order to increase their district's budget more than was allowed without the vote.

Legal Challenges

In a Serrano-type decision, it was found that the 1965 Kansas School Finance Foundation Act produced a finance system under which school districts having high valuations per pupil were capable of financing substantial budget expenditures per pupil at low operating tax levies.[6] Districts with low valuations per pupil had to apply high tax rates to finance their education at a comparable level.

Based in part on these findings, the court ruled in August, 1972, that because education is a fundamental interest and wealth is a suspect classification under the equal protection guarantees of both the Kansas Constitution and the 14th Amendment to the United States Constitution, the Kansas school financing system which was not necessary to a compelling state interest and not rationally related to any legitimate state interest, violated both the Kansas and United States Constitutions. The district court retained jurisdiction and a year later found the 1973 law met the requirements of the U.S. and Kansas Constitutions; but this was not the end of the challenges to the law.

In 1975, a case was tried in the district court of Chautauqua County, Kansas, *Herbert Knowles et al. v. State of Kansas; State Board of Education et al.*, in which it was held that the 1973 act was in violation of the U.S. and Kansas Constitutions. The distribution of state funds under the formula provided in the act was found to result in unequal benefits to

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[6] *Caldwell v. the State of Kansas*, District Court of Johnson County, Kansas, No. 50616.

certain school districts and an unequal burden of ad valorem school taxes on taxpayers in various districts with no rational classification or basis. It was further held that this provision for state finance of schools was not sufficient to enable school districts to provide a fundamental education for the students on a rationally equal basis as required in the state constitution.

While the court adopted a long list of Findings of Fact and Conclusions of Law, two points in the district court's order are most clear. They are that the assessment-sales ratio study cannot be used to adjust assessed valuation of real estate and that other forms of wealth, such as taxable income, cannot be used to measure district wealth unless school districts have power to tax them. The court's decisions about other important issues are more confused, e.g., whether or not all districts are entitled to some general state aid regardless of other factors, and what must be done concerning budgetary limitations.

In its ruling, the court enjoined the state from making any distribution of general state aid under the 1973 act after July 1, 1975, and further said that by that date the legislature would have had reasonable time to correct the statute's deficiency. After the 1975 legislative session and revisions of the school finance statutes, the court held that any determination of the constitutionality of the old law is moot.

On March 6, 1976, the Kansas Supreme Court reversed the Chautauqua County District Court decision and said that the district court should have permitted a further challenging of the School Finance Law as emended in 1975. In sending the case back to the district court for further arguments, the supreme court said that the constitutional issues remain unsolved because the 1975 amendments do not change the design of the act and that the challengers of the law had not yet had their final day in court.

Amendments

The 1975 amendments of the law are substantial, including changes in the definition of wealth and local effort, introducing a grandfather clause, changing the local effort rate, modifying budget limitation, and increasing the income tax rebate.

Wealth and local effort: Originally, district wealth was based on property value and income for the most recent year. This was changed to make district wealth the average of the valuation and income for the most recent three years. This change reduces the sharp annual fluctuations in adjusted valuations and/or taxable income which had occurred and which resulted in substantial increases or decreases in state aid.[7]

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[7]Part of the legislative motivation for this change was to reduce the impact of substantial declines in assessment ratios for a number of school districts.

The importance of this three-year averaging is exemplified by recent Kansas valuations and income data. Without the averaging, the 1974 district wealth would have been $16,352 million for an increase of 16 percent. With the averaging, the increase was reduced to a modest 1.4 percent.

Table 2
Effect of 1975 Amendment on Wealth

Year	Adjusted valuation	Taxable income	District wealth
	(millions of dollars)		
1972	8,921	3,483	12,404
1973	9,903	4,175	14,077
1974	11,644	4,708	16,352
1972-74 Average	10,156	4,122	14,278

Local effort was changed to exclude the amount of intangible tax credited to the school districts. Because this revenue was deducted in computing general state aid, eliminating this credit for local intangible taxes required that state aid make up the difference—some $4 million. It should be noted that, in a companion statute, the 1975 legislature also eliminated school districts from sharing in 25 percent of the district's assessed property tax on intangibles. The net consequence of the two changes was that state aid was substituted for the shared tax revenue in each school district. While the source of school district funds thus changed, the amount available to any district receiving state aid was unchanged.

Grandfather clause: This new provision guarantees that the total of the basic general aid and the district's income tax rebate at least equal what it would have received in 1972-73 under the pre-1973 aid formula, even though this formula was judged invalid in the *Caldwell* case. Adjustments are made for enrollment changes since 1972, and for each mill that a district's general fund levy is less than the state's median, aid is reduced by 10 percent. A partial deduction is applied for the amount of income tax rebate a school district receives.

In 1975-76, 29 districts received state aid under this feature of the act. These districts qualified for $632,000 aid in 1975-76. Of these 29 districts, nine also received some other general aid under the equalization program. In 1974-75, 47 districts received no aid; this will

be reduced to 27. These are the districts which have high wealth per pupil and most also have high budgets per pupil and a general fund property tax rate that is significantly below the median tax rate. Of the 27, only five had 1975-76 general fund levies exceeding the median of 28.74 mills and nine had less than 20 mill levies.

Local effort rate: The local effort rate, which had originally been set at 1.5 percent, was changed to 1.7 percent in 1975. This increase in the norm was designed to keep the demands on the state general fund for state aid and income tax rebates at a level established to ensure that the increase in state support of public education would not exceed the agreed on limit.

Budget limitations: An annual per pupil budget increase of five percent was established as a minimum in the 1973 act. After an increase to seven percent in 1974,[8] this was further increased to 10 percent in 1975. Consequently, the level of equalization was significantly reduced. An additional ground for relief from the budget limitation is provided when expenditures are required by a state or federal law, court, or agency. The significance of this amendment is shown by the $1.25 million appropriation for this appeal for fiscal year 1976.

Income tax rebate: The 1975 amendments raised the income tax rebate to school districts from 10 to 15 percent, and thereby increased the funds available to the districts by about $10 million. This should have the consequence of reducing reliance on local ad valorem taxes. It should be recalled that this rebate is made to all districts, is independent of the state aid they receive, and plays no part in the equalization programs.

The 307 Kansas school districts were arrayed in wealth per pupil and separated into ten groups of 30 or 31 districts. In each of the deciles, the per pupil income tax rebate was calculated. The results of these calculations are shown in Table 3. It is clear that relatively poor districts (the 61 school districts in deciles 1 and 2) receive much smaller rebates then relatively rich districts (the 62 school districts in deciles 9 and 10). Even disregarding the extremes of wealth per pupil, the per pupil rebate was $39.85 for the relatively poor districts (in decile 2) and $69.39 for the relatively rich districts (in decile 9); on a per pupil basis the rich districts received 64 percent more than the poor districts. This fact makes clear the extent to which the Kansas method of distributing state income tax funds is counter to the principle of equalization and substantially increases existing inequalities in the school district's ability to finance elementary and secondary education.

Table 3 also contains enrollment information for the same decile distribution of school districts by wealth per pupil. There is an evident correlation between wealth per pupil and

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[8] This was the only substantial 1974 change in the act.

Table 3
School District Per Pupil Income Tax Rebate and Enrollment
by Decile Distribution of Wealth Per Pupil,
School Districts, 1974-75

Decile	Per pupil income tax rebate (dollars)	Enrollment (thousands)
1	29.13	57.9
2	39.85	77.1
3	63.55	92.2
4	59.74	66.4
5	59.04	72.2
6	52.53	22.0
7	56.69	19.4
8	64.34	13.1
9	65.39	11.1
10	74.01	10.9
TOTAL	53.09	442.2

school district size—poor districts tend to be larger than rich districts. Because of this relationship the Kansas income tax rebate to school districts contains a double discrimination in general, works to the disadvantage of the poor/large districts and to the advantage of rich/small districts.

Conclusion

In the description of the purpose of the 1973 act, this report quoted from the court in the *Caldwell* case. Another quotation from the court is a good place to begin this conclusion.

> It would appear that the current wide variance between educational opportunities offered by poor districts and those offered in wealthy districts will be significantly decreased. The oppressive burden of exorbitant property taxes will be reduced in most school districts. This Act looks to the wealth of the state as a whole, through increased state aid, to provide poor school districts with the opportunity of improving their educational programs. It effectively restores equal protection guarantees by removing local school wealth as the primary factor in

> quality public education, and it further enhances local self-determination by providing poor districts with an effective ability to determine the quality of educational programs they offer.

This judgement is clearly consistent with the finding that the law was constitutional.

Beyond this judgement, it can be concluded that the 1973 Kansas school financing program was designed to allocate state aid in inverse relation to the sum of local assessed property valuation and taxable income of the local district. The local school districts have been authorized to levy a local real property tax but have no power to tax income. However, the state returns 15 percent of resident individual income tax to the local school districts. This rebate is not part of local effort and cannot be used to increase the maximum budget. Rather, it must be used for the purpose of supplementing the local property tax revenues. Because the local budget is determined prior to the tax rate, the Kansas power equalization program is statutorily defined in terms of district budgets rather than in terms of tax rates.

Within limits, each district determines its budget per pupil, recognizing that the higher the budget per pupil, the higher the local effort rate. This is power equalizing in that each district has equal power to select its level of spending because its budget per pupil is a function of the school board's budgetary policies and of the district's local effort not a function of the district's wealth. Within an enrollment category, a district with low wealth per pupil may choose to have the same budget per pupil as a district with a higher wealth per pupil, even though the local effort rate of the two districts would be the same. Low wealth districts would have a greater proportion of their budgets financed by general state aid because the product of wealth and local effort rate for these districts would be less than that for higher wealth districts.

STATEWIDE EFFECTS

It is convenient to divide the statewide effects of the 1973 law, as apposed to those on the local school districts, into macro and microeffects. The macroeffects, the gross overall effects of the law, will be discussed first. Then, the microeffects, the consequences to the aspects of school finance of concern to particular socioeconomic groups or school districts, will be addressed.

Principal Beneficiaries

To better understand the magnitude of the new money added to the school aid program, it is useful to refer to the data which the legislature used in developing the aid formula. Legislators anticipated that, in the first year of application, general state aid would increase $76 million and total aid, which includes transportation, would increase $81 million. Of course, all of this would not be new money. Table 4 shows the sources of the $187.7 million in total aid which was anticipated for the first year. The new program represented a $66.9 million or a 55.6 percent increase in state aid.

Table 4
Estimated 1973-74 Sources of Funding
for State Aid to Local School Districts

Source of Funding	Amount (millions of dollars)
Repealed state general aid programs	105.1
State annual school fund	1.6
School district share of fines and forfeitures	2.5
School district share of LAVTRF	11.6
New state general fund aid	66.9
TOTAL	187.7

Although some local tax relief would result from long-term budget control under the 1973 act, it did not include a direct provision mandating such relief. During debate over the act's value, however, its proponents used the data shown in Table 5 to support their argument that extensive property tax relief was involved.

This potential $50.5 million in property tax relief was very important to the successful consideration of the proposed 1973 reform; it represents the law's major tax relief element. This figure, however, could be misleading because the state aid funds would come primarily from state income and sales tax receipts. Thus, although most citizens gained from the property tax relief, it may be argued that, in part, this gain was neutralized by increases in the income and sales taxes. It is probably true that the financing switch benefited rural farm families and increased the burden on urban wage earners.

While there were no increases in the income or sales tax rates, economic growth and inflation produced increased state revenues from these sources. Rather than reduce tax rates, the state chose to maintain them and employ a major part of the increased revenue to

Table 5
Property Tax Relief in the 1973 Act

Item	Amount (millions of dollars)
Local School District Budget Authority, 1972-73	357.8
Projected legal maximum budgets, 1973-74	383.4
Increase	24.7
Increase general aid	76.0
Increase transportation aid	5.0
Total increased aid	81.0
Individual income tax rebate	8.3
Total increased aid and income tax	89.3
Increase in budget	-24.7
School district share of intangible tax and fines	-2.5
School district share of LAVTRF	-11.6
Property tax relief	50.5

fund expanded state aid to school districts. If one chooses to disregard the automatic increases in income and sales tax revenue (as is often done in Kansas) because the increases do not result from tax rate or base changes, the argument regarding tax progressivity would require modification.

In terms of overall tax progressivity, the lower income groups clearly gained from the substitution of a progressive individual income tax for part of the property tax. The sales tax which was substituted for the other portion of the property tax presents a less clear picture; the result depends on the particular shifting assumptions made about the residential property tax. (A consideration of these alternative assumptions is beyond the scope of this report.) In total, however, the switch made the funding burden more progressive; the rich paid more and the poor paid less for the cost of education.

Total Cost of the Reform

Data outlining the total cost of the school finance reform are shown on Table 6. State aid rose from $104.6 million in 1972-73 to $239.8 million in 1975-76 as a result of the state's committing a large part of the increase in state resources to this expenditure program. This commitment increased the state's share of local school district budgets from 28 percent in 1972-73 to over 47 percent in 1975-76; this occurred in spite of a one-third increase in

school district general fund budgets. The effect of the act on other than general fund budgets will be discussed below.

Table 6
State Aid to Local School Districts,
1972-73 through 1975-76

	1972-73	1973-74	1974-75	1975-76
		(millions of dollars)		
General fund budget	357.2	388.2	425.9	477.1
General State aid				
Basic	98.6	154.6	175.1	196.8
Grandfather clause				.6
Total	98.6	154.6	175.1	197.4
Income tax rebate		2.0	14.0	26.0
Transportation aid	6.0	11.6	12.9	14.5
Total aid and rebate	104.6	168.2	202.0	239.9
		(percent)		
Ratio of general state aid to budget	27.6	39.8	41.1	41.4
Ratio of general state aid and rebate to budget	27.6	40.3	44.4	46.8
		(pupils)		
Enrollment, September 15	472,652	458,005	446,414	441,500

Note: Data are for unified school districts excluding Ft. Leavenworth.

From the enrollment data in Table 6, it can be seen that general fund budgets, or educational expenditures, rose from $756 per pupil in 1972-73 to $1,080 in 1975-76. This increase is much greater than was allowed prior to the act when per pupil budget increases were restricted to 104 percent per year. The state absorbed most of the increased school expenditures through increased general state aid, income tax rebates, and transportation aid.

General state aid alone rose from $209 per pupil in 1972-73 to $455 in 1975-76, and the state's share of the local district budget rose from 27 to 42 percent. District income from other than state sources rose moderately from $534 per pupil in 1972-73 to $537 in 1975-76.

Statewide, the average percent ratio of general state aid to general fund budgets was 40 percent in 1973-74. Excluding the 41 districts which received no general state aid, the average state aid ratio was 42 percent.

An inverse relationship between district wealth per pupil and the ratio of general state aid to a district's general fund budget was the direct result of the 1973 aid formula. In each of the three enrollment categories applicable in 1973-74, districts with low wealth per pupil had high state aid ratios. These ratios declined as district wealth per pupil increased; districts with very high wealth per pupil received no general state aid.

There are some exceptions to the general rule of the inverse relationship of wealth per pupil and the general state aid ratio when certain districts with comparable wealth per pupil are compared. This is because, in addition to the principal deduction of district wealth multiplied by the local effort rate, P.L. 874 receipts and the districts' shares of the county foundation fund and the intangibles tax also were deducted in computing general state aid. Exceptions to the general rule are most notable where the P.L. 874 deduction was significant. The amount that districts with comparable wealth per pupil had deducted as their shares of the equalized two-mill foundation fund levy also varied, depending on the amount raised by their countywide levies and on the size of each district's entitlement from that fund. Deduction of the proceeds of the county levy had less effect on the rankings of state aid ratios than the P.L. 874 deduction. The intangibles tax deduction, generally did not have a significant bearing on the array of state aid ratios.

Effect on State Taxes

No new or increased taxes were associated with the enactment of the 1973 school finance program. There was, however, a continuation of the "temporary" provision enacted in 1972 which disallowed deductions for federal tax payment when computing the state corporate income tax and privilege tax on financial institutions. No tax rate increases or extensions of the tax base occurred.

The 1973-74 increase in state aid and the state's commitment to future annual increases mainly was a consequence of the positive and growing state general fund balance. This growing balance also provided for growth in other state expenditures such as public welfare. From 1973 to the present, Kansas has enjoyed increasing state general fund revenues. Because of its particular industrial structure, Kansas was affected less severely than

the rest of the nation by the 1973-74 recession. As a result, Kansas was able to increase state aid to school districts by 61 percent in 1973-74, by 20 percent in 1974-75, and by 19 percent in 1975-76 (see Table 5) without increasing state taxes or directly employing federal revenue sharing funds for school finance.

During the period in which state aid was increasing so significantly, local funds remained rather constant in per capita terms and fell in total. The act involved no change in the sources of local revenue available to the school district. The significant reduction in the county foundation levy in 1973-74 resulted in an overall 10.4 percent reduction in property taxes levied for all school purposes that year. Increases in school district general fund and other levies combined to result in an overall increase in property tax levies of 16.3 percent from 1972-73 to 1975-76. Substituting the income tax rebate for some property tax revenues reduced the overall reliance on the property tax in support of education in Kansas.

Equalizing Effects

The equalizing effects of the 1973 act can be analyzed by observing local school districts' ability to finance school expenditures, as measured by the wealth per pupil before and after the act. A similar comparison can be made of budget/general fund expenditures and thereby analyze the effect of the ect on the equality of educational services. By observing the changes in state aid and in locally produced revenue further information is provided on the sources of revenue funding for educational finance.

Table 7 provides information on wealth, expenditures, and state aid measured in per pupil terms for 1972-73 and 1974-75 by various types of school districts. These financial data are also available for 1973-74, before the provisions of the act were fully operative, and for 1975-76, where some of the data are still preliminary. The use of 1972-73 and 1974-75 information avoids these data problems and is sufficient to illustrate the consequences of the act.

Certain social and economic information published in the *1970 Census of Population* is available for many school districts in Kansas. These data permit the classification of school districts by six characteristics. Within each of these characteristics two sub-groups of school districts are identified: those with and without black persons; with and without Spanish surnamed persons; with a low and a high portion of rural/farm (the proportion of employed persons classified as farmers or farm related workers—in Kansas, this is equivalent to a rural/urban classification); a low and a high portion poor (the percentage of families with family income below the poverty level); with a low and high income (median family

Table 7
Wealth, Budget and State Aid, 1972-73 and 1974-75
by School District Characteristic

District characteristic	Wealth		Expenditures		State aid	
	1972-73	1974-75	1972-73	1974-75	1972-73	1974-75
			(dollars per pupil)			
Black						
With	$20,536	$25,781	$761	$926	$211	$452
Without	25,877	34,336	804	956	211	360
Spanish surnamed						
With	22,338	28,774	772	936	196	413
Without	25,182	33,165	801	952	224	380
Portion rural/farm						
Low	21,733	27,734	764	932	201	433
High	37,769	52,160	1,028	1,152	211	236
Portion poor						
Low	24,303	31,757	791	945	179	376
High	29,113	38,533	875	1,014	227	346
Income						
Low	28,230	37,735	849	989	231	340
High	22,343	38,673	801	958	197	430
Portion rich						
Low	26,399	27,000	788	951	236	363
High	23,350	30,469	813	971	191	414

income); and a low and high portion rich (the percentage of families whose family income was $15,000 or greater).[9]

The first comparison in Table 7 shows that 248 school districts without black persons had much higher per pupil wealth and per pupil expenditures than the 18 districts which had black persons. Yet state aid was the same to all districts. After the equalization act the inequality of district wealth increased. Because the reform did nothing to equalize wealth per pupil, the increased inequality was not a consequence of the act. The difference in expenditures was reduced and a state aid differential which favored districts with black persons was introduced. In terms of state aid ratios (state aid expressed as a percentage of expenditures), the small percentage advantage to districts with black people increased substantially. Thus, districts with black persons gained as a result of the reform, as would be expected in districts with less wealth per pupil.

A similar comparison can be made between the districts with and those without persons with Spanish surnames. Prior to the reform, 18 districts with Spanish surnamed people had less wealth and lower expenditures and received less state aid both in dollar and ratio terms. After the reform, the shortage of wealth in districts had increased. On the other hand, their expenditure growth was rapid and almost resulted in the elimination of this differential. For these districts, state aid increased so substantially that they received more dollars per pupil and a greater portion of their expenditures from state aid after the equalization act than did districts without Spanish surnamed persons. The reform thus benefited school districts with Spanish surnamed persons as it benefited black districts.

Table 7 also presents date which differentiates between those 26 districts with a small and the 26 with a large portion of their population residing in rural/farm areas. In 1972-73, rural/farm districts had much more wealth and higher expenditures than did urban/nonfarm districts. By 1974-75, rural/farm districts further increased their wealth lead. These districts lost some of their expenditure lead—nonetheless a substential gap remained. A turnabout (like that recorded for districts with Spanish surnamed persons) occurred in dollar state aid, with urban areas receiving more per pupil than rural areas before the act and far less after the act. These changes translate into a sizable increase in the lead the urban areas had in their state aid ratio and result in a ratio more than twice as large for urban than rural areas. In general, urban districts gained in comparison to rural/farm districts.

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[9] Because Kansas has few residents who are black or who have Spanish surnames the comparison is made on a with and without basis. The other comparisons consider the 10 percent of the school districts in which the residents are richest and poorest, most rural and least rural, etc. The findings are rather unchanged if the comparisons are made for the top and bottom 25 percent rather then the 10 percent described above.

Income comparisons can be made in a number of ways. Before the reform, a district with a high incidence of poverty and a low income was associated with relatively large wealth, expenditures, and state aid; whereas a district with a large portion of rich families was associated with large expenditures, less wealth, and low state aid. After the reform, the wealth gap remained rather unchanged for the portion below poverty income comparison but increased for the income and portion rich comparisons. The expenditure differential narrowed for all three income comparisons. The state aid differential increased for the income comparison but decreased for the other two. For state aid ratios there was a reversal of the lead for all three comparisons. Thus, the 26 districts with low portions of their residents below poverty level, with a high district income, and a high percentage of rich families gained at the expense of the 26 districts with more of their residents below a poverty income level, with low overall district income, and with a small portion of their residents classified as rich.

An alternative way of looking at the relationship between state aid and wealth or expenditures is by employing a correlation coefficient as a measure of the statistical relationship. Table 8 presents four school finance statistics for the years 1972-73 through 1975-76 combined for all districts and separately for the three enrollment categories. This analysis differs from the one shown in Table 7 in that it examines the entire range of districts and is not limited to those at the extremes. Also, this analysis employs a Gini Index as the statistical measure.

The Gini Index is an expression of a Lorenz curve which is often used to illustrate the degree of equality in the distribution of income and is an appropriate quantitative measure of fiscal neutrality for public school finance. A Lorenz curve is a graphic presentation in which school districts, for example, would be arrayed in ascending order of wealth per pupil; the cumulative percents of total school revenue are plotted against the cumulative percents of each district's proportion of the state's student population. A measure of the degree of concentration of this frequency distribution is given by the Gini Index.[10] It has the value zero when each school received the same per pupil revenue and complete equality is present; the index has a value of one if all school revenue is received by one district and complete inequality exists. A range of values for the Gini Index of 0 to 1 is possible, with a lower index indicating a more equal distribution of per pupil school district revenue. One advantage of using this index is that it avoids the large influence of squared differences at

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[10] Technically the Gini Index is calculated $G = \Sigma (X_{i-1} Y_i - X_i Y_{i-y})$ where y = revenue and x = pupils in the district.

the extremes, which are present in some measures, and is independent of the measure of central tendency.

With a change in school revenues accomplished by a change in the distribution of state aid, there will be a change in the Gini Index. This change will be a quantification of the effect on fiscal neutrality of the alteration in the distribution of state aid.

The Gini Indices shown in Table 8 may be interpreted as follows: after the reform act, wealth, state aid, and local revenues were distributed more unequally than before, but per pupil expenditures were equalized.

It should be recalled that neither the 1973 Kansas School District Equalization Act nor subsequent amendments attempted to equalize per pupil wealth. The observed changes in the degree of equality of per pupil wealth is the result of differences in the rate of growth of enrollment and wealth between districts, and of some small realignment of school district boundaries.

From 1972-73 to 1975-76, wealth became seven percent less equally distributed among school districts, and the Gini Index rose from .1899 to.2046. Over the same period local revenue became 46 percent less equel, state aid 57 percent less equal, and expenditures about 30 percent more equal. While there are some differences among school districts when they are classified by size, the same general pattern prevails.

Comparing the Gini Indices for state aid and local revenue clearly shows that some portion of the inequality in locally produced school revenue is offset by state aid which was the purpose of the 1973 act. For example, the total difference in the all-districts category for 1972-73 is 32 percent lower than it would have been without state aid.[11] The offset rose to 58 percent in 1973-74, to 65 percent in 1974-75, and to 66 percent in 1975-76. Thus, the initial effect of the reform was very substantial in equalizing the educational opportunity available to Kansas public school pupils and the equalization has continued to increase modestly.

For the large and middle-sized districts the results are similar. However, for the small districts the amount offset is substantially less than that for the other two classifications--in 1976-76, 67 percent for the largest, 66 percent for the middle, and 50 percent for the smallest districts.

While the Gini Index is employed as the main statistical measure of fiscal neutrality, it is inadequate for measuring some relationships of importance to this analysis of the Kansas

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[11] This ratio is calculated as follows:

$$100 \left(1 - \frac{\text{Expenditures}}{\text{Local Revenue}} \right).$$

Table 8
Gini Index: Wealth, Expenditures, State Aid, and Local Revenue,
1972-73 through 1975-76,
by District Size

	1972-73	1973-74	1974-75	1975-76
		(all districts; 307 school districts)		
Wealth	.1899	.1878	.2032	.2046
State aid	.1077	.1637	.1732	.1692
Local revenue	.1426	.1981	.2085	.2045
Expenditures	.0975	.0829	.0727	.0696
		(1,300 and over pupils; 66 school districts)		
Wealth	.1308	.1302	.1410	.1384
State aid	.0976	.1203	.1144	.1141
Local revenue	.1044	.1348	.1392	.1373
Expenditures	.0679	.0575	.0473	.0448
		(400 to 1,299 pupils; 178 school districts)		
Wealth	.2117	.2082	.2220	.2254
State aid	.1125	.2200	.2596	.2487
Local revenue	.1678	.2460	.2430	.2371
Expenditures	.1141	.0974	.0865	.0799
		(less than 400 pupils; 63 school districts)		
Wealth	.2287	.2208	.2051	.2121
State aid	.1852	.5054	.5264	.4816
Local revenue	.1792	.2309	.2140	.2112
Expenditures	.1297	.1195	.1137	.1065

School District Equalization Act of 1973. Therefore, a correlation analysis is employed to produce a single summary statistic which describes a strength of association between two variables and supplements the Gini Index with an additional statistic. A correlation coefficient is calculated to quantify the association. The coefficient can vary from +1.0 to -1.0. A coefficient of +1.0 implies a "perfect" positive relationship in which an increase in one variable is always associated with a concomitant increase in the other variable; a coefficient of -1.0 indicates a "perfect" negative relationship in which an increase in one variable is always associated with a decrease in the other variable; and a coefficient of 0 always implies that no relationship exists between the two variables. This Pearson correlation coefficient has a significance level associated with it. Technically, in this report a two-tailed Student's *t* with N - 2 degrees of freedom is the reported significance test.

Table 9 presents correlation coefficients between state aid and wealth, and wealth and expenditures. State aid is measured as the percentage of total expenditures financed from state grants; wealth and expenditures are measured on e per pupil basis. It is clear that there is a strong negative relationship between wealth and state aid; rich districts have lower state aid ratios than do poor districts. Similarly, a somewhat weaker relationship between relative state aid and expenditures means that districts that spend a lot receive relatively little aid, and districts that spend little receive relatively large amounts of state aid.

Table 9
Correlation Between Relative State Aid and Wealth, and Expenditure 1974-1975, Total and Enrollment Groups

Enrollment group	Number of districts	Relative State Aid	
		Wealth per pupil	Expenditure per pupil
		(correlation coefficients)	
All districts	261	-.9417	-.7552
Less than 400	45	-.9707	-.5931
400 to 1,299	152	-.9488	-.7838
1,300 and over	64	-.9339	-.6075

All significant at .001 level.

Program Effects

Pupil transportation is the only special program included in the 1973 act. There are no provisions creating local incentive or equalization of other special programs such as compensatory education, education for the handicapped, capital outlay, or textbook or retirement funding. There are other systems of state financial aid for some educational needs; these systems require proration if sufficient funds are not available to meet total program entitlements. In recent years, this has been a problem for the rapidly growing special education programs but has not been of significance to the other special programs. The importance of these programs is indicated by the level of their funding shown in Table 10.

Table 10
State Aid to School Districts for Special Programs

Program	1973-74	1974-75	1975-76
		(thousands of dollars)	
Transportation aid	11,644	12,931	15,000
Special education	5,568	9,476	12,108
Vocational education	341	396	730
Drivers education	900	1,200	1,200
School food assistance	859	945	1,435

Pupil transportation: Kansas law requires school districts to transport all pupils who reside more than 2.5 miles from the school which they attend. Districts are permitted to, and many do, transport pupils who live closer to the school. Since 1965, transportation aid has been provided on the basis of the average cost of pupil transportation within pupil density groups which recognized the higher transportation costs in low-density districts. The 1965 level of state funding was established at $32 per pupil or 70 percent of the actual cost, whichever was less. The 1973 act raised this funding level to a cost-density formula authorization or 100 percent of the actual cost, whichever is less; eliminated the restrictive state limit on this aid; and ended the need to prorate district allocations that were lower than the authorized level.

The rationale for not equalizing pupil transportation aid is that such transportation is a public convenience, not an educational function. This speaks to requiring the state to fully

Table 11
Adjusted General Fund Tax Rates
1972-73 through 1975-76

Mill levies	1972-73	1973-74	1974-75	1975-76
		(number of districts)		
Less than 10	31	20	2	3
10.00–14.99	112	96	11	34
15.00–19.99	115	131	127	182
20.00–24.99	37	50	138	80
25.00–29.99	10	9	25	7
30.00–34.99	3	1	4	1
35.00–39.99	1	–	–	–
40.00–44.99	1	–	–	–
45.00–49.99	–	–	–	–
TOTAL	310	307	307	307
		(mills)		
Low rate	3.71	2.73	9.59	7.41
High rate	40.06	30.56	31.11	30.97
Median	15.52	16.29	20.37	18.20

Note: An adjusted tax rate is the rate which would have produced the same amount of revenue as was actually received, had the property been assessed at the required 30 percent ratio between the assessed and actual value.

Table 12
Property Tax Levies by Fund,
1972-73 through 1975-76

Fund	1972-73	1973-74	1974-75	1975-76
		(thousands of dollars)		
General	$167,065	$170,496	$217,693	$230,539
Social Security	15,286	20,504	21,410	25,807
Capital outlay	11,551	15,480	18,289	21,435
Vocational education	8,497	9,567	8,584	9,824
Special education	6,234	7,707	8,243	9,288
Workmen's Compensation	–	–	1,050	856
Transportation	–	784	567	576
Teacher retirement	336	493	629	466
Recreation	1,384	1,634	1,770	2,042
No-fund warrants	893	689	397	499
Special assessment	787	919	704	868
Library	463	601	495	610
Bond and interest	32,669	33,776	32,209	34,671
County foundation fund	61,820	14,112	16,688	16,729
TOTAL	305,384	276,661	328,728	355,210

fund the fair cost of transportation. At another level of analysis, it was the rural districts which suffered after the switch from the 1965 to the 1973 plan. Leaving transportation aid out of the equalization formula reduced the number of unaided districts and gained legislative support for the change.

The 1973 law liberalized the transportation aid formula and nearly doubled the amount of such aid. All qualifying districts, including those which received no general aid, received an increase in transportation aid.

Special education: Prior to 1974, there were four categorical state aid plans for special education: developmentally disabled, exceptional children, homebound, and deaf/blind. In 1974, the state legislature enacted a major legal revision pertaining to the school district's responsibility in providing special education services to exceptional children. One of the more significant components of that legislation was the revision of the formula for providing district's financial assistance for special education. This legislation also mandated the provision of the full range of educational services to exceptional children and consolidated special education categorical aid programs into a single formula which was applied for the first time in fiscal year 1975. This formula provides for the payment of certain transportation and maintenance expenses and for the balance of the appropriated funds to be distributed to the school districts based on the number of special education personnel they employ.

In fiscal year 1975, state aid provided about 75.6 percent ($1.75 million) of the total school district expenditures for mileage for special education teachers and for transportation/maintenance of pupils. An additional $7.7 million was apportioned to special education personnel at $3,793 per FTE. These two programs produced $9.5 million in state aid. In fiscal year 1976, this program increased to $12.2 million, with an increase to $4,000 in personnel allocations.

School districts supplemented this state aid and the $2.3 million in federal aid by $8.0 million from a special education property tax levy and by an additional $9.5 million in transfers from the school district general fund. The total expenditure, $29.3 million, represents a 26 percent increase over fiscal year 1974; preliminary 1976 data indicate another increase of approximately 20 percent.

Vocational education: The state provides aid to vocational education to area vocational schools, community junior colleges, and unified school districts. To determine each district's entitlement, Kansas employs a complicated formula which was designed to meet federal requirements. It begins with the computation of the state-approved vocational program budget for the prior year. "Local effort," the amount spent for programs in the preceding year minus reimbursement, and "local ability," the funds to support vocational education

that could be generated locally from all sources (e.g., state aid, local tax levy, and tuition), are computed. A ratio factor is derived by dividing the local effort by local ability and is multiplied by the difference between the approved budget and the local effort to determine the entitlement. That entitlement is subject to two additional qualifications: the minimum basic entitlement per program may not be less than $1,000 and the entitlement per program may not be less than 90 percent nor more than 110 percent of the amount received in the prior year.

Driver education: The state makes an allocation to driver education which is derived from license fees. The allocation is divided among school districts on the basis of each district's proportion of the state's driver education students. Because of the rising numbers of students enrolled in these programs, per student aid has declined steadily for a number of years.

School food assistance: School districts are provided state aid from the state general fund to satisfy the matching fund requirements under the National School Lunch Program.

LOCAL EFFECTS

This section addresses the consequences of Kansas school finance reform on the local school district. The focus is on local school tax rates, local responses to power equalization, the districts' experiences since the act, and the determinants of tax rates. This section concludes by noting the extent of correlation between income and property values as wealth proxies.

Effects on Local School District Tax Rates

As was noted earlier, the state exercises local control through regulation of the rate of increase in per pupil budgets. While school districts have the freedom to select their own tax rates, the state's limit on their per pupil budget increases has been so low that, when combined with inflation, it has forced nearly all districts to utilize their full authorization and even to seek additional authorization through the appeals process. Thus, the districts are able to exercise little judgemental choice or local control. At the least, Kansas school districts have not revealed their preferences to the extent that might have been expected from a state financial aid program which includes power equalization features.

Kansas school districts are authorized to levy taxes on all tangible property, both real and personal, located within their districts. There are no mandated requirements of specific tax levies for qualification under the 1973 act. Even derivation of the "local effort, for deduction from a district's basic entitlement," is merely a mathematical calculation, not a required tax rate.

In an analysis which compared the 1972-73 and 1973-74 general fund tax rates for Kansas school districts, the Legislative Research Department found that the 1973 act resulted in a rapid narrowing of the range of tax rates among school districts and in a tax rate decrease in districts with low wealth per pupil and low per pupil budgets. In terms of the object of the 1973 act, more important is the fact that in 1972 the Kansas school district with the lowest tax rate had the highest wealth per pupil and the district with the highest tax rate had a relatively low per pupil wealth. But, in 1973, the school district with the lowest rate had the second lowest wealth per pupil and the lowest budget per pupil, while the district with the highest rate ranked in its enrollment category near the top in wealth per pupil and had a high per pupil budget. In 1972, five districts had adjusted tax rates in excess of 30 mills and each had a relatively low wealth per pupil. The following year, four of these districts had adjusted rates of less than 10 mills, and the rate in the other district had declined significantly. Under the 1965 Kansas school finance system, the prevailing situation was one in which the districts with low wealth and expenditures had among the highest tax rates. That situation was largely corrected in 1973-74; a number of the low-wealth districts were able to greatly reduce their general fund tax rates in 1973.

Table 11 presents adjusted general fund tax rates for Kansas school districts during the years 1972-73 through 1975-76. These data show that the spread of mill levies was significantly reduced immediately after the equalization act and that the general level of tax rates did not significantly change during the four-year period. It might be argued from these data that there was a general shift in the dispersion of tax rates in 1973-74 but little other change in overall tax rates.

The most striking example of the change in mill levies and budgets brought about by the act is illustrated in the case of the Galena school district. In 1972-73, Galena had a budget per pupil of $497 and a general fund tax rate of 45.08 mills. For 1975-76, their budget per pupil had increased 63 percent to an estimated $837, and their general fund tax rate had decreased to 23.59 mills, a reduction of 21.49 mills. Galena's general fund tax rate, which was once one of the highest, is about 6.1 mills less than the state median.

Selection of School Tax Rates

In Kansas, the local school district general fund provides most of a district's educational finance. Table 12 shows the fund levies from 1972-73 through 1975-76. Before the equalization act, when the county foundation levy was large, the general fund levy represented about 61 percent of the total fund levies. After the 1973 act, and the resultant reduction in the county foundation fund, the general fund levy has consistently been over 70 percent of the total levies.

Even though differences exist between the general fund and the total fund levies, when all levies are included, the correlation between the two is high, .76 in 1975-76 (see Table 13). This correlation decreased immediately after the act, but since then has steadily increased; it is highest within the group of small districts shown in Table 14. Because of this high positive correlation, it is possible to restrict the analysis to the general fund tax rates and at the same time to implicitly generalize about total tax rates.

It is important to observe the relationship between general fund tax rates and the per pupil wealth and budget. As shown in Table 13, in 1972-73 there was a highly significant negative relationship between this tax rate and wealth or budget; thus, rich districts with high budgets levied low tax rates—a *Serrano* finding. After the equalization act, the magnitude of this relationship was greatly reduced, and for the relationship between tax rate and budget, its statistical significance declined. Thus, the equalization act reduced the force of the observed relationship between district wealth and tax rates and eliminated the relationship between budgets and tax rates. To this extent, the purpose of the act has been accomplished.

Table 14 extends this analysis to enrollment groups and isolates the remaining statistically significant negative relationship between tax rates and wealth. This relationship persists only in small districts; those which are both rich and small have low tax rates. Poor small districts have high tax rates. The negative tie between wealth and tax rates remains only in the small districts; a negative relationship between budgets and tax rates no longer exists in any enrollment group.

A final examination of the impact of the 1973 reform on general fund tax rates is possible by distinguishing between districts on the basis of their socioeconomic characteristics. Table 15 provides such information for the same district characteristics employed in Table 7. Before the reform, school districts with black and Spanish surnamed persons, urban/nonfarm, high portion both poor and and rich, and high income imposed relatively high tax rates. After the equalization act, this relationship persisted for districts with black and Spanish surnamed persons and for rich districts. However, after the reform, tax rates were relatively higher for the rural/farm, poor, and low income districts. Large tax rate increases occurred in districts with no black or Spanish surnamed persons, rural/farm, low income, and lower portion both rich and poor. Rates actually fell over the period in districts with black persons and in rural/farm, high income, and portion rich districts.

Relationship Between Property Values and Income

Kansas determines school district wealth by totaling the district's property valuation and income. Note the order of magnitude of the two components; in 1973-74 adjusted

Table 13
Correlation Between General Fund Tax Rate and
Wealth, Budget, and Total Tax Rate
1972-73 through 1975-76, All Districts

Year	General fund tax rate		
	Wealth per pupil	Budget per pupil	Total tax rate
	(correlation coefficients)		
1972-73	-0.5420*	-0.3991*	0.9371*
1973-74	-0.2722*	0.3360*	0.7155*
1974-75	-0.0981	0.0328	0.7463*
1975-76	-0.2118*	-0.0549	0.7597*

*Significance = 0.001
Significance > .01

Table 14
Correlation Between General Fund Tax Rate and
Waalth, Budget and Total Tax Rate,
1972-73 end 1974-75, by Enrollment Group

Enrollment group	General Fund Tax Rate		
	Wealth per pupil	Budget per pupil	Total tax rate
	(correlation coefficeints)		
1972-73			
Less than 400	-.5917*	-.3779*	.9307*
400 to 1,299	-.6549*	-.4523*	.0166*
1,300 and over	-.3904*	-.0562	.9574*
1974-75			
Less than 400	-.4062*	-.2260	.8550*
400 to 1,299	-.1343	-.0249	.7613*
1,300 and over	-.1146	.2166	.7198*

*Significance = 0.001
Significance > .01

Table 15
General Fund Tax Rates, 1972-73 and 1974-75
by School District Characteristics

District characteristics	1972-73 (mill levies)	1974-75
Black		
With	29.89	29.00
Without	22.48	28.91
Spanish surnamed		
With	26.22	29.61
Without	22.73	28.87
Portion rural/farm		
Low	29.73	29.04
High	19.38	29.73
Portion poor		
Low	21.91	29.81
High	27.58	29.23
Income		
Low	20.58	30.08
High	35.69	28.77
Portion rich		
Low	19.62	26.77
High	30.12	28.81

valuation, $9.9 billion, was approximately twice the taxable income, $4.2 billion. These components are highly correlated among school districts. For the 307 school districts, the correlation was 0.9874 in 1973-74, 0.9844 in 1974-75, and 0.9863 in 1975-76; the significance level of the correlation coefficient is 0.00 for each year. This significantly positive correlation is somewhat reduced when the components are expressed in per capita terms—0.4672 in 1973-74, 0.5669 in 1974-75, and 0.5429 in 1975-76. It is interesting to note that within small and middlesized school districts the correlations are similar and are relatively unaffected by the per pupil transformation. The largest districts, however, exhibit a considerable dependence on the way the variables are measured. Illustrative correlations are shown in Table 16.

Table 16
Correlation Between Property Valuation and Income, Total and Enrollment Groups, 1973-74

	Number of districts	Total property valuation and total income (correlation coefficients)	Per pupil property valuation and per pupil income
All districts	307	0.9884	0.5669
Less than 400	73	0.4653	0.5026
400 to 1,299	169	0.6103	0.6134
1,300 and over	65	0.9925	0.3454

From the analysis it is clear that, among Kansas school districts, income and property values are highly correlated when expressed in totals. For the large districts, however, this correlation changes when it is expressed in per pupil terms; it remains positive, but is smaller and has a lower statistical significance. The per pupil correlations are the factors when evaluating school aid programs because equalization is meaningful only in terms of the educational opportunity it provides to individual pupils. The weakness of the correlation between per pupil income and per pupil wealth requires careful policy formulation to develop state aid programs which recognize the relationship between the tax base of a local school district and the measure employed to determine the district's ability to finance public education.

IMPLICATIONS OF THE KANSAS EXPERIENCE

The Kansas experience since the equalization act of 1973 illustrates one important aspect of reform in school finance, that continual attention must be addressed to equalization to insure that the degree of equality remains stable or continues to improve. In Kansas, the experience has been mixed. A grandfather clause was added after the act was initiated. The rate of increase in local budgets was allowed to expand substantially thereby reducing the level of potential equalization. More important has been the general upward drift of the local effort rate which has the consequence of increasing the extent of equalization. It should be recalled that if the local effort rate is reduced the state will be called on to contribute a greater portion of the authorized school district budget (up to 100 percent if the local effort rate is zero) regardless of the district's wealth per pupil. The individual income tax rebate, which is distributed to districts on the basis of collection, increased but was not funneled through the aid formula, thus is not directly equalizing. Finally, there has been a reluctance to extend the equalization beyond the current (not capital) general fund (not special education, etc.) expenditures. As these nonequalized expenditure responsibilities have increased, the equalization force of the 1973 act has been reduced. Thus the Kansas experience points to the continuing need for reform efforts.

Clearly, the Kansas School District Equalization Act of 1973 and its subsequent amendments have substantially increased the degree to which Kansas has equalized its public school finance. Educational opportunities are more equal in the state. Nonetheless, much remains to be done. In recent legislative sessions, attention has been given to the equalization of more than current general fund expenditures. Prime candidates for inclusion in the formula are vocational and special education and Social Security tax expenditures. If the State proceeds in this direction, the degree of equalization will be further significantly increased.

ADDENDUM

The 1976 session of the Kansas Legislature completed its work after the body of this report had been prepared. Because this session made some changes in the Kansas school finance program, a complete report should include a summary of its action. This addendum contains that summary.

Wealth

The measurement of district wealth as an average over a three-year period was extended to a four-year period. This further reduced the measured change in wealth as the result of adjusted valuation or taxable income changes.

Local Effort Rate

The local effort rate was raised from 1.7 percent to 1.77 percent which resulted in further equalization.

Grandfather Clause

A 1976 amendment reduced to 75 percent the amount of the income tax rabate to be deducted from the per pupil entitlement to determine a district's aid. This will result in an increase in the amount of aid provided under the grandfather clause.

Income Tax Rebate

After a five percent increase in the income tax rebate in 1975, an additional five percent increase was made, bringing the total to 20 percent. Again, all districts share in these funds and no equalization occurs.

Budget Limitations

The annual budget increase of 10 percent, authorized in 1975, was returned to the 1974 level of seven percent. This per pupil limit applies to any school district which does not have the authority to make a larger increase.

MICHIGAN'S SCHOOL DISTRICT EQUALIZATION ACT OF 1973: ITS BACKGROUND, STRUCTURE, AND EFFECTS*

Introduction

On August 14, 1973 Governor William G. Milliken signed Public Act 101, designated by the Michigan Legislature in honor of its chief sponsor as the "Gilbert E. Bursley school district equalization act of 1973". In so doing the Governor realized a goal he had been pursuing assiduously for four years, in that the Act did bring substantial changes in the system of state aid for elementary and secondary education. But these changes bore little resemblance to the program he had advocated from 1969 to 1972, when a proposed constitutional amendment that would have permitted implementation of that program was turned down by the electorate. As was the case in other states, the battle lines were formed on one side by those, led by Governor Milliken, who favored drastically diminished reliance on the property tax coupled with centralized state financing of a uniform program.[1] On the other side a variety of interests were united only in their opposition to the Governor's plan and, perhaps, by concern for maintenance of a large measure of local fiscal responsibility.

Action toward reform was given some impetus by the State Supreme Court. In Governor vs. State Treasurer[2] the Court, divided 4 to 3, declared the 1970-71 system of financing elementary and secondary education to be unconstitutional. The opinion was hastily written and handed down on December 29, 1972, a few days before two new justices would take office.

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Only one month later the new justices voted with the remaining two dissenters in favor of a motion for rehearing.[3] And, finally, on December 10, 1973, four months after the Bursley Act became law, the Court vacated its earlier opinion, again on a 4 to 3 division,[4] thus relieving the Legislature of any judicial pressure for reform that may have remained after the U.S. Supreme Court's verdict in Rodriguez.[5] Although there is obviously room for differences of opinion on the matter, in Michigan's case it seems apparent to us that school finance reform was not a consequence of litigation or judicial edict. Rather, it should be seen as the current stage in a continuing effort to realize equality of educational opportunity, an effort the beginnings of which antedate statehood.[6] The Bursley Act has already been subject to amendment in legislation passed in 1975 and 1976,[7] and the Governor's State of the State Message of January, 1977 proposes some further minor changes.[9]

As an evolving system, school finance in Michigan is particularly difficult to evaluate. Certainly since fiscal year 1973-74 the system has been in a transition phase, moving from the former foundation program through change each year in the scope and limitations attached to its equal-yield formula. Thus the data for 1973-74 and 1974-75 can not reveal equilibrium positions attained by school districts in response to the new system. This study must be seen, therefore, as one that explores the consequences of changes in the system during the very early phases of transition from pre-1973-74 arrangements. It is far too soon to expect definitive conclusions with respect to long-run equilibrium consequences of the shift to the equal-yield approach for inter-district differences in per pupil operating expenditures and revenues, millage rates, and other relevant variables. But prospects

and expectations set up by the new approach can be explored, with the analysis drawing on the observed outcomes in transitional years as well as on changes in incentives and rewards introduced by that approach.

In the sections of the study that follow, we examine, first, the developments that took place in the foundation program during the decade beginning in 1961-62, then the principal features of the Bursley Act of 1973 and its amendments are described and compared with the pre-1973 foundation program. The expected school district responses to the change are examined next, followed by an extensive analysis of the data for the period through 1974-75 and, to a more limited extent, 1975-76.

The Foundation Program to 1972-3

Michigan was one of the earliest states to concern itself with equality of educational opportunity. That concern was evidenced, for the most part, for nearly 50 years prior to passage of the Bursley Act through Strayer-Haig type "foundation" programs.[9] Typically, a foundation aid program was (and is) designed to ensure to each school district that put forth at least the mandated tax effort a specified minimum number of dollars per pupil, irrespective of the size of the district's tax base. The three elements in the foundation aid formula are the basic allowance, the amount of deductible millage, and the taxable value of property per pupil in the district. Thus the foundation formula is:

$$A = B - m(SEV), \text{ subject to a zero limit,}$$

where A is the per pupil amount of state aid, B is the basic allowance, m is deductible millage, and SEV is the taxable value of property per pupil. Another feature of the program is the "mandated" millage, the rate that

must be levied if the district is to qualify for state aid.

Obviously, a foundation aid program can be as adequate to the task of ensuring any specified minimum level of revenue and degree of equalization of revenues per pupil as its designers wish to make it, if no budget constraint is imposed. Suppose, for example, that the state wishes to ensure that each district has available to it for operations $1,200 per pupil. It sets the value of B at this sum. It may also decide that state aid should be extended in amounts that decline with rising SEV, to reach zero at a level of $50,000. To find the required m, all that is needed is to set A in the formula equal to zero, let B equal $1,200, SEV equal $50,000, and solve for m, which turns out to be 24 mills.[10] Adding the requirement that 24 mills or more must be levied to qualify for aid completes the program. Under it all districts with SEV ranging from zero to $50,000 would be assured, by means of a lump sum grant, of $1,200 per pupil, with no state matching of millage in excess of 24. Thus once the mandated or qualifying millage is levied no further incentives to local tax effort are offered. And considerable inequality in per pupil revenues may remain, attributable to tax rates higher in some districts than 24 mills and/or to SEV's in excess of $50,000.

An equal-yield or "district power equalizing" formula will similarly permit variance in per pupil revenues, because of tax rates in excess of the level subject to state matching and, in the absence of a recapture provision, because of SEV's higher than the basic support level. The mandated millage feature is not, of course, a necessary part of either the foundation or the equal-yield approach. It may be employed with either approach as a means of establishing a floor level of revenue for each pupil in all districts that elect to participate in the state aid system. The

important difference between the two approaches lies in the fact that a foundation program offers only a fixed or lump sum grant that is invariant with local tax effort, providing no price or subatitution effects at the margin. In contrast, under an open-ended equal yield system, substitution effects vary inversely with the district's SEV. No aid whatsover is provided when SEV exceeds the support level, and increasingly large sums per dollar levied locally are allocated as SEV declines.

Needless to say, the foundation program as it functioned in Michigan fell far short of the goals implied in our illustrative figures. Commenting on the program as it functioned in 1957-58, the authors of Michigan Tax Study Staff Papers noted that "The basic objective - so far only dimly realized - of state aid to education in Michigan has been to equalize educational opportunity for all children..."[11] This finding would have surprised no one, certainly not anyone aware of the fact that the gross allowance per pupil in 1957-58 was $190, deductible millage was 2.75 mills, and 7 mills was mandated.[12] By 1961-62 the gross allowance had been increased only to $205, deductible millage to 3.25, and mandated millage to 8 mills.[13] For that year operating expenditures per pupil in Michigan's 534 K-12 districts ranged from $238 to $630, with a mean of $335, $130 or 63 per cent more than the gross allowance. A district having the average SEV of $12,160 and levying only the mandated 8 mills would have had available to it $97 per pupil in property tax receipts and $165 in state aid, for a total of $262, more than 20 per cent below the State mean. If that district had levied 12 mills for operation, the State average for 1961-62, it would have realized $311 per pupil, which, with the addition of categorical aids and miscellaneous receipts, would have enabled it to spend at about the mean level for the State,

If its SEV had been equal to that of the district ranked at the top of the lowest quartile, $7,988, a levy equal to the State average would have provided it with only $275 per pupil in general assistance plus property tax revenue. A district ranked at the top of the third quartile in terms of SEV, $14,090 per pupil, would have had a corresponding amount of $328 available to it.

Thus for the 1961-62 fiscal year one does find a wide difference in the level of expenditures of the school districts at opposite ends of the range. The ratio of 2.65 to 1 between the highest and lowest spending districts represents an extreme upon which one can base a good "horror story" of the kind that has been well received in State Supreme Court opinions such as those handed down in California and Michigan. Yet, while such wide differences are shocking, extreme cases do not lend much insight to the attempt to evaluate either the system as a whole or changes in that system. It is far more instructive to observe those measures that provide means of characterizing the system as a whole. Thus, turning again to per pupil operating expenditures for fiscal 1962, we find that the mean figure was $335 and the standard deviation was $61, producing a "coefficient of variation", defined as the standard deviation divided by the mean, of 13.3 per cent. We should expect, therefore, to find that two thirds of Michigan's districts spent between $335 + $61, or $396, and $335 - $61, or $274, while 95 per cent fell within a range of $457 to $213.[14] Actually no district fell below $238, suggesting a skewed distribution, as does the fact that the highest spending district, at $630, was almost 5 standard deviations above the mean, so far "out of line" as to be viewed appropriately as a "freak".

An alternative measure of dispersion is given by one-half of the difference between the first and third quartile values expressed as a percentage of the median. It has the virtue of being unaffected by extreme values at either end of the range. In terms of this version, the coefficient of variation in expenditures per pupil was 10.4 per cent, indicating that in a set of school districts normally distributed with respect to operating expenditures per pupil, approximately one-half of the districts would lie between the median value plus 10.4 per cent and the median minus 10.4 per cent, or between $351 and $284.[15]

Clearly, however, irrespective of the measure of dispersion used, there were, in fiscal 1962, substantial differences among school districts in per pupil operating expenditures. These differences were the products of very much greater variances in state equalized values of taxable property per pupil (SEV) and in operating millages levied. The mean level of SEV for all 534 districts was $12,160, with a range of $1,133 to $55,619. The operating millage rate averaged 12 mills, reaching as high as 30 mills in one district and down to a low of 7 in another. The coefficients of variation (standard deviation divided by the mean) were 52 per cent for SEV and 32 per cent for operating millage. It might be supposed that the very much lower variance in operating expenditures than in millage and SEV was attributable to efforts by low SEV districts to offset low taxable value by imposing higher tax rates. But this was true only to a very limited extent. The simple correlation coefficient, relating 1961-62 tax levies for school operations to 1961 SEV's is, at -.074, relatively low. The regression equation is $MILL_{61-2} = 12.54 - .045\ SEV_{61}$ (where SEV is expressed in thousands of dollars), indicating that a difference between districts of $1,000 in SEV is, on the

average, accompanied by a difference in the opposite direction of less than .05 mills. Given this relationship, one is forced to the conclusion that the major factors tending to bring variance in expenditures well below that in SEV[16] were the system of general state aid, despite the low gross allowance relative to mean expenditures and the low deductible millage relative to the average tax rate, and categorical assistance.

The basic structure of the school aid system remained unchanged through the fiscal year 1964-65. The gross allowance per pupil and deductible millage of $205 and 3.25 mills, with at least 6 mills required for any aid to be received and 8 mills for full aid, in effect from 1959-60 through 1961-62, were increased to $224 and 3.875 mills for 1962-63 and 1963-64 and to $236.50 and 4.25 for 1964-65.[17]

The State Legislature faced each year the conflict between the high and the low SEV districts, each seeking a larger share of a gradually rising amount of state aid. Under the foundation grant program, given the budget constraint, obviously a higher gross allowance must be offset by higher deductible millage. Suppose, for example, that the choice lay between a gross allowance of $500 and deductible millage of 12 mills and $300 and 2 mills.[18] A district with $20,000 in SEV would be indifferent between these alternatives. It would receive $260 per child under either. But "richer" districts would opt for the $300/2 mill package while "poorer" districts would push for $500 and 12 mills deductible. For example, a district with SEV of $30,000 would receive $240 per pupil under the first alternative and only $140 under the second, whereas a district with SEV of $5,000 would get $290 and $440. Moreover, the $300/2 mill formula would extend aid to districts with as much as $150,000 in SEV, thus ensuring some aid to all

districts, whereas the $500/12 mill combination would bring aid to zero where SEV reached $41,667.[19] Thus, with any given total of funds available for general school aid, realization of an increase in equalization of revenues available requires raising the gross allowance and deductible millage simultaneously.

The tug of war for school aid funds between the "have" and "have-not" districts seemed hopelessly deadlocked until the 1965 legislative session. The compromise devised that year permitted each school district to choose that one of two alternative formulas most favorable to itself. Specifically, the options permitted were a gross allowance of $255 per pupil coupled with 4.6 mills deductible and $380 with 14.5 mills deductible.[20] These alternatives established the "break-even" SEV at $12,627, close to the statewide average in 1965. This legislation provided a small but significant step toward increasing the equalizing impact of the state aid system. Under it the $20,000 SEV district was entitled to $163 per pupil, while the $5,000 SEV district could claim $308, a difference of 89 per cent. In the preceding year, 1964-65, when a uniform $236/4.25 mills formula applied to all districts, the corresponding amounts would have been $152 and $215, for a difference of only 41 per cent.

A similar approach to state aid was pursued by the Legislature through 1972. But the ratio between the gross allowance available to low SEV districts and that afforded to high SEV diatricts, $380 to $255, or nearly 1.5 to 1, was permitted to decline gradually until, by 1971-72, it had reached $661.50 to $559.50, or 1.18 to 1, and for 1972-73 it was down to $715 to $644,[21] 1.11 to 1. This decline was offset, however, by a sharp narrowing of the difference between deductible millages and with repeated

increases in them. Thus from 4.6 and 14.5 mills in 1965-66 deductible millages were increased to 14 and 20 for 1970-71 and 1971-72 and to 16 and 20 mills for 1972-73.

In Table 1 we have set out the principal features of state general aid for school districts and the amounts per pupil received, by selected school districts, for the years 1966-67, 1969-70, 1971-72, and 1972-73. The data presented in the table show that the changes over the period under review redounded strongly to the relative advantage of such low SEV districts as Inkster in the Detroit metropolitan area, the Upper Peninsula small rural district of Rock River Township in Alger County, the Flint suburb of Mount Morris, the Leslie district in the Lansing area, and Northview, near Grand Rapids. Among these districts the increase in foundation aid per pupil ranged from $225 for Rock River, an increase of 67 per cent, $205 for Leslie, and $201 for Inkster (61 per cent), to $148 for Mount Morris and $124 for Northview.

On the other hand, high SEV suburbs, such as Dearborn in the Detroit area and the Grand Rapids area's Godwin Heights, saw their general assistance fall to zero, while others, Ann Arbor and the Lansing suburb of Waverly among them experienced sharp cuts in aid, bringing them to $100 or less per pupil.

It must be borne in mind, of course, that the changes in "membership" or general aid shown in Table 1 are attributable only in part to changes in the aid formula. They also reflect changes in SEV. We find very high rates of growth in Lincoln Park and Northview, for example, approaching or exceeding 100 per cent in only six years, and thus dampening substantially the influence of the changes in the aid formula for these low SEV districts.

Table 1

Gross Allowance per Pupil, Deductible Millage, and State Formula Aid per Pupil, 1966-67 to 1972-73, Selected Years and School Districts

		1966-67	1969-70	1970-71	1971-72	1972-73
Aid Formulas						
SEV	a)	>$12,738	>12,864	>15,550	>17,000	>17,750
	b)	≤ 12,738	≤12,864	≤15,550	≤17,000	≤17,750
Gross Allowance	a)	$280.50	408.00	530.50	559.50	644.00
	b)	407.50	549.50	623.50	661.50	715.00
Deductible Millage	a)	5.03	9.0	14.0	14.0	16.0
	b)	15.00	20.0	20.0	20.0	20.0

Aid Per Pupil

	SEV	AID	SEV	AID	SEV	AID	SEV	AID	SEV	AID
Detroit	$16,655	197	17,720	249	18,347	274	19,872	281	20,521	316
Dearborn	34,705	106	41,447	35	44,738	0	45,952	0	50,393	0
Inkster	5,214	329	6,637	417	8,151	460	8,556	490	9,246	530
Lincoln Park	7,747	291	12,609	297	15,695	311	16,807	325	18,483	348
Ann Arbor	21,510	172	25,642	177	28,848	127	31,608	117	33,980	100
Milan	10,735	246	12,653	296	14,480	334	16,074	340	17,177	371
Rock River Twp.	4,686	337	5,340	443	6,394	496	7,328	515	7,647	562
Harbor Springs	17,214	194	26,078	173	24,925	182	24,473	217	21,188	145
Flint	17,350	193	19,087	236	20,463	244	20,942	266	22,313	286
Mt. Morris	7,598	294	8,999	370	10,473	414	12,657	408	13,675	442
Gorman	21,746	171	26,668	168	28,977	125	30,049	139	31,592	139
Lansing	15,247	204	18,828	239	20,363	245	20,515	272	21,405	302
Leslie	6,665	308	7,924	391	9,780	428	10,049	461	10,117	513
Waverly	21,664	172	26,582	169	29,944	111	32,266	108	35,371	78
Grand Rapids	18,928	185	20,343	225	21,540	229	22,039	251	22,719	280
Godwin Hts.	24,176	159	36,744	77	35,564	33	39,467	7	42,943	0
Northview	8,051	287	9,331	363	10,403	415	13,001	401	15,220	411
Three Hypothetical Districts (growth in SEV at 8 per cent per year)										
A	$ 5,000	333	6,400	424	6,800	488	7,300	516	7,900	557
B	15,000	205	18,900	238	20,400	245	22,000	252	23,800	263
C	40,000	79	50,400	0	54,400	0	58,800	0	63,500	0

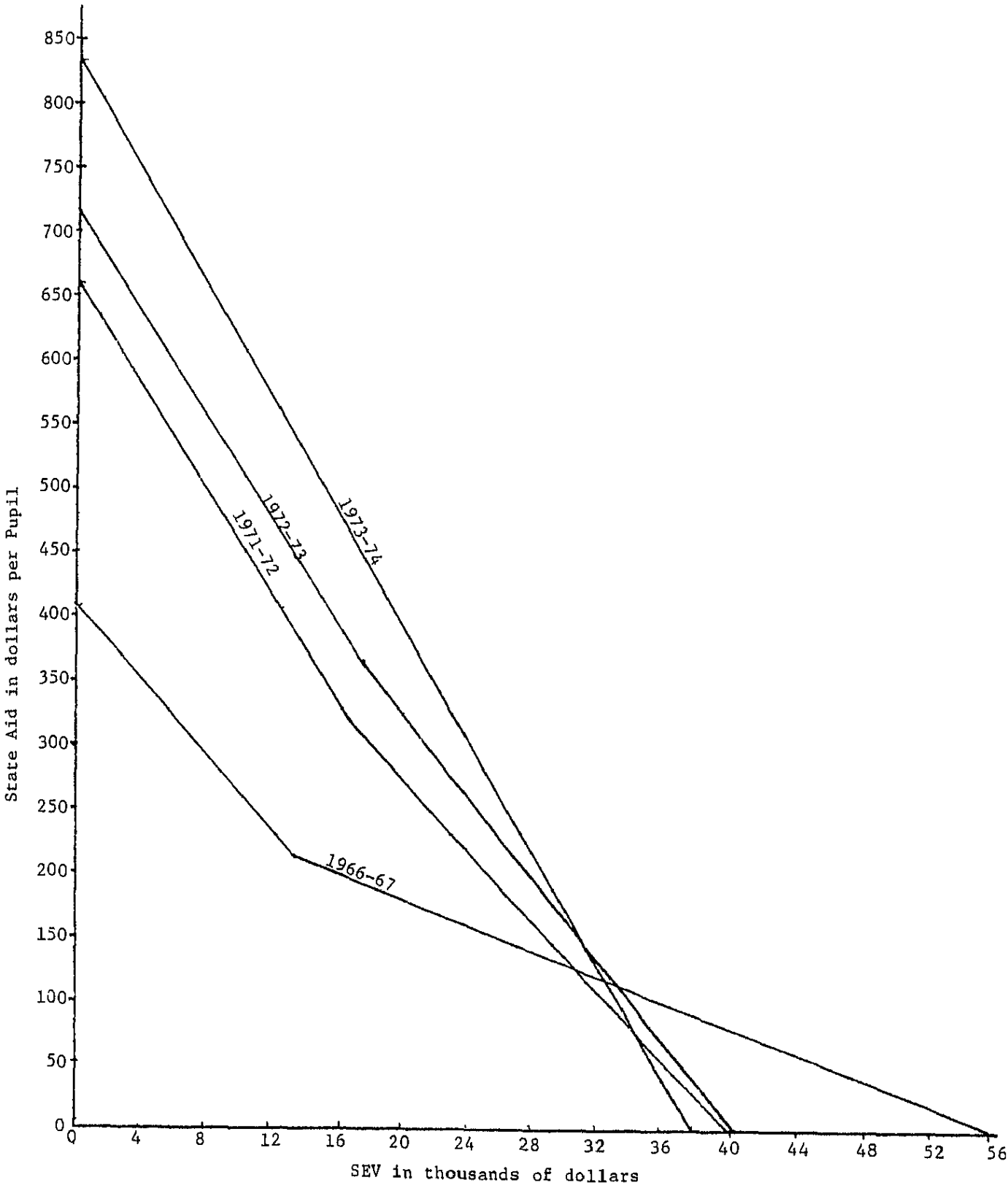
and for districts like Dearborn and Godwin Heights the rapid rate of growth of SEV reinforced the influence of formula changes to reduce aid to zero from over $100 per pupil in 1966-67.

Throughout the immediate pre-Bursley period we find the Detroit school district gaining only slowly in aid per pupil, moving from $197 in 1966-67 to $316 in 1972-73, about in line with the advance in the total appropriation for general membership aid. Detroit's "needs" may exceed those of other districts, but its SEV remained above the mean for all districts until 1974-75, in part because of enrollments that have been declining steadily since a mid-60's peak of about 300,000. In terms of taxable value per pupil even currently Detroit is not "poor", in the sense that its SEV lies above the median value for all K-12 districts.

Finally, in an effort to illustrate the effects of changes in the school aid formula independently of differences among districts in the rate of growth of SEV, we present the bottom tier of figures in Table 1 and the relationships depicted in Figure 1. Each of the hypothetical school districts A, B, and C of Table 1 is assumed to experience a rate of growth in its SEV of 8 per cent per year, beginning from a low level of $5,000, a modest but above average $15,000, and a high level of $40,000 for 1966-67. In the latter year each of the 3 districts would have received some aid, ranging from $333 for A to $79 for C. But by 1969-70 C no longer receives anything. B moves upward slowly to $263 per pupil by 1972-73, for an annual rate of growth of 4.24 per cent. And A, the low SEV district, gains $224 per pupil in 6 years, realizing an annual rate of growth in state aid of 8.95 per cent.

Changes in the membership aid formula enacted during the latter half of the decade of the 1960's and the early 1970's seem clearly to have moved

Figure 1
Relation Between State Aid and SEV, Selected Years, 1966-67 to 1973-74



the system appreciably toward an increasingly large equalizing influence. These changes are depicted graphically in Figure 1. Beginning with 1966-67, we find that as SEV increases aid per pupil declines fairly rapidly up to SEV of $12,738 and then, at the "kink" at that level of SEV, much more slowly, reaching zero only at $56,000, almost $5,000 higher than the highest SEV in that year among K-12 districts. By 1971-72, however, the kink in the aid function has diminished sharply, due to the shift from 15 and 5.03 in deductible millage to 20 and 14. For 1972-73, with deductible millages at 20 and 16 the kink has become barely discernible at $17,750 of SEV. The most important aspect of Figure 1 that stands out clearly and sharply is that, compared with 1966-67, the improvement in the level of state aid per pupil by 1972-73 is greatest for districts with very low SEV and declines steadily as SEV increases, falling below the 1966-67 level when SEV reaches approximately $33,000, some 50 per cent above the state wide average. For 1972-73 aid fell to zero at SEV's of $40,250 and above.

The line labeled 1973-74 is not strictly comparable with the other three. It reflects the impact of the Bursley Act in a restricted and limited sense and is included in order to demonstrate that the first year's impact of the Act's "power-equalizing" or "equal yield" formula can be seen as essentially an extension and improvement of the foundation program, rather than as a drastic shift away from the direction in which the Legislature had been moving in the years immediately prior to its enactment. For 1973-74 the Bursley Act provided general aid per pupil equal to $38,000 minus the district's SEV, multiplied by its operating millage, up to a maximum of 22 mills. The relationship between state aid and SEV for 1973-74 depicted in Figure 1 is drawn on the assumption that each district levied 22 mills or more.[22]

Given this assumption, state aid under Bursley for 1973-74 may be stated in "foundation" grant terms as a gross allowance of $836 (.022 x $38,000) coupled with deductible millage at 22 mills. As we shall note presently, however, this view of the Bursley Act is not consistent with its intent and is only valid for 1973-74 for those districts that did levy at least 22 mills.

For the period 1961-62 through 1972-73 we should expect to find that the major changes in the foundation aid system described here brought about a reduction in the degree of inequality that prevailed with respect to such principal fiscal variables as per pupil operating expenditures and local revenues. It is possible, however, that changes in SEV may have led to more or to less inequality in those variables, depending on whether its variance widened or narrowed over the period. At the same time variance in state aid per pupil should have increased. The relevant data are presented in Table 2 for the years 1961-62, 1966-67, and 1971-72. The year 1972-73 is omitted because in that year the Detroit School District levied only 15.51 mills for operations, compared with 20.80 in 1971-72 and 22.51 for 1973-74.[23] Since Detroit accounted for 13 per cent of total public K-12 membership in 1972-73 and a similar proportion of total operating expenditures, we believe that its aberrant behavior in that year would cast serious doubt on any conclusions that might be based on data relating to it. Unfortunately data on local revenues per pupil and state aid per pupil are not available to us for the year 1961-62.

As we look at Table 2 we observe that our expectations regarding the impact of changes in the aid system on operating expenditures per pupil appear, at least in modest degree, to have been realized. The range between the highest and lowest districts remains enormous and over the ten-year

Table 2

Levels and Measures of Dispersion for Per Pupil Operating Expenditures, Local Revenues, State Aid, and SEV, and Operating Millage, K-12 School Districts, Selected Years, 1961-62 to 1971-72

Year	Minimum	Median	Maximum	Coefficients of Variation	
				$\frac{\sigma}{\bar{X}} \cdot 100$[a]	$\frac{Q_1 - Q_3}{2} \cdot \frac{1}{md} \cdot 100$[b]
	Operating Expenditures per Pupil				
1961-62	$238	$318	$ 630	18.3	10.4
1966-67	356	461	819	16.7	9.4
1971-72	554	761	1,510	15.7	8.0
	Local Revenues per Pupil				
1961-62	$N.A.	$N.A.	$N.A.	N.A.	N.A.
1966-67	52	275	810	46.1	25.5
1971-72	75	399	1,443	46.5	28.4
	State Aid per Pupil				
1961-62	$N.A.	$N.A.	$N.A.	N.A.	N.A.
1966-67	33	275	480	18.7	12.3
1971-72	22	401	660	31.4	19.2
	State Equalized Value per Pupil				
1961-62	$1,133	$10,872	$55,619	51.5	28.1
1966-67	1,621	11,217	51,627	48.1	26.5
1971-72	2,080	14,958	66,844	51.7	26.9
	Operating Millage				
61-62	7.0	11.2	30.0	31.5	23.3
66-67	8.0	15.0	33.5	27.1	18.1
71-72	9.0	22.2	37.9	21.3	14.5

Note: N.A. indicates data not available.

[a]Standard deviation divided by the mean, multiplied by 100.

[b]One-half the difference between the first and third quartile values divided by the median, multiplied by 100.

Sources: Derived from Michigan Department of Education, Bulletin 1012, for 1961-62, 1966-67, and 1971-72.

period the ratio of the spending level for the highest spending district to that of the lowest is virtually unchanged at close to 2.7 to 1. But we must look beyond such indications as these, indications that are provided exclusively by districts lying at both extremes of our distribution, the "sports" as it were. More general measures of dispersion are two coefficients of variation, one centered on the mean and the other on the median value of per pupil operating expenditures. In terms of the former, given by the standard deviation divided by the mean,[24] we find a steady decline in the value of the coefficient, from 18.3 in 1961-62 through 16.7 for 1966-67, and 15.7 by 1971-72, suggesting an appreciable decline in dispersion of per pupil expenditures about their average level for all school districts in the State.

Some observers will prefer our alternative coefficient of variation because, unlike the first one, its magnitude is entirely independent of extreme values at both ends of the range. It is the semi-interquartile range[25] expressed as a percentage of the median; by definition half of the school districts fall within a range equal to the median plus or minus the coefficient multiplied by the median. In effect it tells us how closely bunched the middle half of all school districts are with respect to the variable under review. And, as in the case of the coefficient of variation given by $\frac{\sigma}{\bar{X}}$, our concern here is at least as much with its trend over time as with its actual value at any one point in time. In terms of this second version of the coefficient of variation we find, again, a steady decline in the dispersion among school districts in operating expenditures per pupil, from 10.4 in 1961-62 to 9.4 in 1966-67, and to 8.0 in 1971-72.

The next two blocks of numbers presented in Table 2, those relating to

local source revenues per pupil and state aid, provide some insight into the component factors entering into the reduction of variance in expenditures. We find that the dispersion of local revenues around both the mean and the median actually increased somewhat from 1966-67 to 1971-72 (data for 1961-62 were not reported on a comparable basis). For the same period, however, state aid became substantially more unequal as well, accounting for the reduction in variance among districts in operating expenditures. Further indicative of the strength of its increasingly equalizing influence is the fact that the absolute size of the correlation coefficient relating state aid per pupil to local revenue went up from -.73 in 1966-67 to -.88 in 1971-72.[26]

For the decade under review there was virtually no change in variance in SEV. By either measure it was large, and about the same at the end of the period as it had been at its beginning. Thus, for example, for 1971-72 the spread between the median plus the coefficient of variation times the median and the median minus this product was $18,982 to $10,934, or 1.74 to 1. In 1961-62 that ratio was 1.78 to 1. It seems clear, therefore, that changes over time in SEV contributed nothing to reduction in differences among school districts in their potential or actual levels of operating expenditures.

The courts and other observers of problems of school finance frequently point to pair-wise comparisons of districts that indicate that high SEV is accompanied by a modest or even low tax rate while low SEV districts strive hard, but futilely, to raise funds by levying high tax rates. In Michigan we do find considerable variance in operating millage, a variance which, as may be seen in Table 2, has declined more sharply than that of all of the

variables examined here. A decade of moving the foundation aid system toward an increasingly important equalizing role has seen mill rates levied by individual school districts clustering steadily closer to the mean or median for the districts in the State. But at no time in the period 1961-62 to 1971-72 can one observe any appreciable negative correlation between SEV and operating millage. The simple correlation coefficient was -.07 in 1961-62, -.09 in 1966-67, and -.02 in 1971-72. None of these values is significantly greater than zero, and it is, therefore, not possible to draw the inference that the reduction in variance of millage rates is attributable to the changes in the state aid formula.

Before turning to the Bursley Act of 1973, its amendments of 1975 and 1976, and an evaluation of its early consequences, it seems safe to conclude that the decade preceding its enactment was a period during which the State was moving steadily toward an increasingly equalizing role in school finance. This is not to deny that other forces were at work as well, however. We can only draw conclusions about the direction of the influence of state aid, as distinct from the magnitude of that influence.

The Bursley Act and Its Amendments

The "Gilbert E. Bursley School District Equalization Act of 1973,"[27] despite its special title, served simply as the school aid appropriation legislation for the fiscal year 1973-74, providing for general membership aid and for funding of a wide variety of categorical aid programs.[28] Its potential importance was enormous, however, because it provided for a shift from the lump-sum foundation grant system of general membership aid to a matching grant. The Act specified a three-year transition to a program of

general state aid designed to ensure all districts revenues equal to at least $40 per pupil per mill levied for operating purposes by 1975-76.[29]

The amount allocated to each district per "membership pupil"[30] was set at $38,000 less the district's SEV multiplied by operating millage up to 22 mills for 1973-74, $39,000 less SEV multiplied by up to 25 mills for 1974-75, and $40,000 less SEV with no limitation as to tax rate for 1975-76 and thereafter.[31] Districts with SEV in excess of the stipulated limits were not subject to a recapture or negative state aid provision; they were simply left to their own devices, outside of the bounds of the equal-yield system.

As we noted earlier, for 1973-74 for a very large proportion of Michigan's school districts the general state aid formula was only moderately different from the one that applied in 1972-73. For the 327 out of 531 districts that levied 22 or more mills for operations in 1973-74 state aid in the latter year was a lump sum based on the district's SEV, with the per pupil amounts varying inversely with SEV, as shown in Figure 1, in principle ranging from $836 to zero. For these districts the Bursley formula can be interpreted as a foundation grant with a per pupil allowance of $836 and deductible millage of 22 mills. An additional 33 districts levied less than 22 mills but had SEV's in excess of $38,000 and were, therefore, entitled to no membership aid for 1973-74. It follows, therefore, that for 1973-74 only 171 out of 531 Michigan school districts actually were subject to any new incentives engendered by the Bursley Act. But for these districts the impetus to high millage rates appears to have been quite strong, for the number of districts with operating levies of less than 22 mills and SEV of under $38,000 for 1973-74 and under $39,000 for 1974-75 declines from 171 to

only 72. For 1974-75, with support provided for up to 25 mills on a $39,000 SEV base, some 260, or almost half of all districts, were subject to the new matching grant incentive in that increases in millage would bring additional state aid.

By 1975-76 all districts entitled to general membership aid, those with SEV of less than $40,000, were to receive aid per pupil equal to their actual operating millage multiplied by $40,000 less their SEV. In this third year of the three-year transitional phase-in of Bursley the equal yield system was to be fully operational, with each district in the State assured of at least $40 per operating mill per pupil. If the Act had been permitted to become effective for 1975-76 as stipulated by the Legislature in 1973, all but 70 districts with $40,000 or more of SEV would have received aid under these terms. In 1975, however, the Legislature amended the Bursley Act, partly to reduce total costs of state aid, but more importantly because of continuing opposition, especially from Detroit, to rewarding school districts that choose to levy high tax rates. Children in the public schools, it was argued, should not be dependent for the support of their education on the preferences expressed by their elders voting in millage elections. Thus the continuing conflict between the advocates of subatantial local discretion or autonomy with equalized yields per mill levied, in effect equalized tax bases, and thoae who seek a uniform level of per pupil revenues and expenditures, irrespective of local preferences, led to major changes in the aid formula under Bursley.

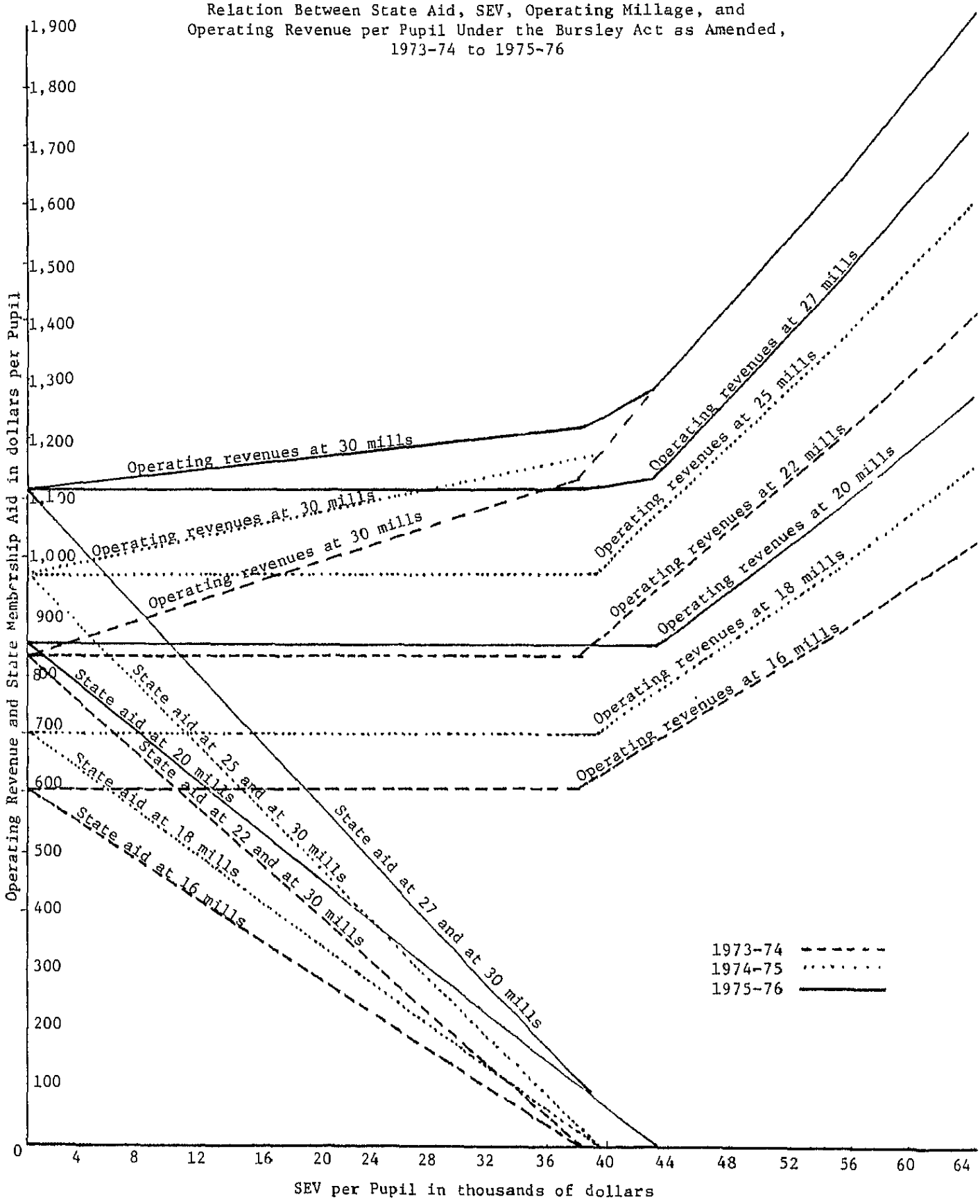
Instead of permitting the Act to come into full effect in the third year of the transition from the old foundation grant system, the Legislature moved to place a "cap" on the millage subject to matching and to weight lower

millage rates more heavily than higher ones. It accomplished these objec tives by stipulating that membership aid for 1975-76 would be computed by subtracting the district's SEV from $42,400 and multiplying the difference by its operating millage, up to 20 mills; a district levying more than 20 mills would receive, in addition, an amount equal to the difference between $38,250 and its SEV multiplied by the excess of its operating millage over 20 mills, subject to a maximum of 7.[32] Thus only 27 mills would be subject to matching, with the first 20 assured of $42.40 per mill per pupil and the next 7 mills $38.25. Relative to the 1973 Act's provisions for 1975-76 and thereafter, therefore, the 1975 legislation moved toward more aid for districts with lower operating tax levies and less for high-rate and high SEV districts. Most important, perhaps, is the fact that the lump-sum nature of the system was retained for all districts levying 27 or more mills, some 135 out of 529 districts.

In Figure 2 we show, for the first three years under the Bursley Act, the scheduled relationships between state membership aid per pupil, SEV, and operating revenue (exclusive of categorical grants, which are generally invariant with SEV or local millage), at various illustrative millage rates. These illustrative rates include one set at levels below the "cap" rate for each year, 22, 25, and 27 mills, one set at the cap rate, and one, at a uniform 30 mills, above it for all three years.

The negatively sloped lines indicate the relationship between state aid and SEV for a given operating millage rate. The point of interception of these lines with the horizontal axis is, in each case, at the per pupil state support level for the tax base, $38,000 in 1973-74, $39,000 in 1974-75, and $42,400 for 20 mills, $38,250 for 20 to 27 mills in 1975-76. For

Figure 2
Relation Between State Aid, SEV, Operating Millage, and
Operating Revenue per Pupil Under the Bursley Act as Amended,
1973-74 to 1975-76



districts with SEV's below these levels state aid is given by the height of the relevant line at a point directly above the specified SEV. Thus, for example, for 1973-74, a district levying 22 mills and having SEV of $20,000 would have received state aid of $396 per pupil. Since 22 mills was the cap rate for 1973-74, higher millages brought no additional state aid, but as the lowest line in Figure 2 indicates, a district levying only 16 mills, assuming the same $20,000 SEV, would have received state aid of only $288.[33] This illustrates once more the point made earlier, that the cap rate sets the millage ceiling at and above which aid under Bursley takes on the character of a lump-sum rather than a matching grant. It is only for those districts with millage rates initially below the cap rate that additional local tax revenue attracts additional state aid. In the economist's parlance districts levying the cap rate or higher are subject only to the "income effect" of the state aid; that is, they are induced to spend more only because the aid increases their spending power, for education as well as for everything else. On the other hand, the stimulus to increased expenditures for education is much greater for districts with rates below the cap level for, in addition to the income effect, they are subject to a "price effect". The latter arises because as the mill rate increases state aid increases as well, with the increase in aid varying inversely with SEV. Thus, for example, our $20,000 SEV district initially levying 16 mills, under the terms of Bursley for 1973-74 would realize an addition to its revenues of $38 per pupil if it raised its tax rate by one mill. Of the $38, $20 would be local tax revenue and $18 state aid. The "price" at the margin to this district of an additional dollar of operating revenue is, therefore, not $1 but ($1 x $\frac{20}{38}$) or $.53. As may be seen from the conver-

gence of the two state aid lines for 1973-74 in Figure 2, the effect on price declines as SEV rises. At the extreme, where SEV is zero, price may be said to be zero, and as SEV reaches and then exceeds $38 000 price becomes 1.[34]

The height at each point of the horizontal or positively sloped lines of Figure 2 indicates "Operating Revenue", or more precisely, state membership aid plus local tax receipts for operations per pupil. Each operating revenue line corresponds to a state aid line for the same year and millage, and the vertical distance between the two is operating tax revenue. We note that under Bursley at tax rates at or below the cap rate for each year revenue per pupil is constant for SEV's up to the state support level, $38,000 in 1973-74, $39,000 in 1974-75, and $42,400 for the first 20 mills and $38,250 for the next 7 mills in 1975-76. Beyond these support levels, of course, revenue per pupil increases proportionately with SEV at any tax rate. It is important to note as well that rates in excess of the cap rate bring differentially higher per pupil revenues at various levels of SEV. For 1974-75, for example, all districts with SEV's of $39,000 or less and a tax rate of 25 mills realized $975 in operating revenue per pupil. But at a tax rate of 30 mills, within the same SEV range, operating revenues per pupil go from $975 at SEV equal to zero to $1,170 at $39,000. In consequence higher tax rates, or greater local "tax effort", bring increasingly high revenue yields as SEV rises and much of the objective of the "equal-yield" plan under Bursley is lost when a cap rate is imposed.

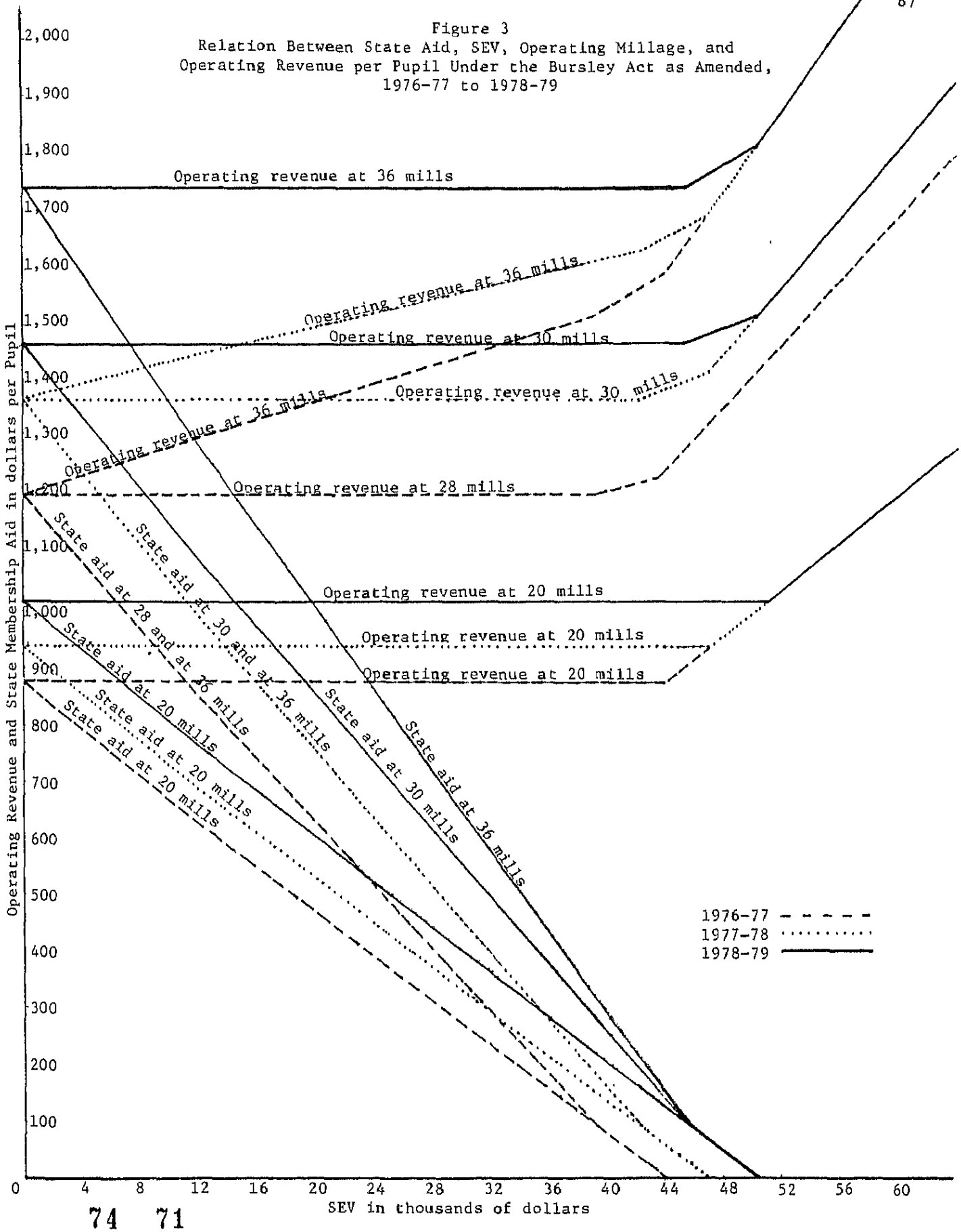
Before turning to our attempt at analysis of the effects of moving through the initial transition period under the Bursley Act, we note that the amending legislation of 1975 provided for the terms for membership aid

only for 1975-76. A new three-year phase-in, to an equal-yield system without limitation as to the local tax rate that is to be permitted to govern each district's aid allocation, was enacted in 1976.[35] It continues the two-part support levels introduced in 1975. For the first 20 mills the district's aid is to be computed by subtracting its SEV from $43,900 in 1976-77, $47,000 in 1977-78, and $50,300 in 1978-79, and multiplying the difference by either 20 mills or, if lower, the actual operating rate. Districts levying more than 20 mills are to receive additional aid equal to up to 8 mills multiplied by $39,600 minus SEV for 1976-77, up to 10 mills multiplied by $42,400 minus SEV for 1977-78, and for all operating millage above 20 miltiplied by $45,400 minus SEV for 1978-79.[36]

The effects of the 1976 Act are presented graphically in Figure 3. We need not dwell on the details, for to do so would involve, for the most part, repetition of our comments on Figure 2. What is noteworthy here, however, is the effect of removing the cap rate for 1978-79. Now we note that for all districts with SEV of $45,400 or less we have achieved full equal-yield or "power equalizing". Without limit, each mill in the tax rate above 20 produces, in state aid plus local tax revenue, $45.40 per pupil. The system is two-tiered, however, because for the first 20 mills yields are equalized at $50.30 per mill per pupil, given the state support level of $50,300. It is important to observe, however, that the system does not achieve true equal-yields because, at tax rates of 20 mills or less, districts with SEV in excess of $50,300 and at rates higher than 20 mills, with SEV in excess of $45,400, will realize more than $50.30 and $45.40 per mill per pupil, respectively.

The Bursley Act as amended thus provides for a limited equal-yield

Figure 3
Relation Between State Aid, SEV, Operating Millage, and Operating Revenue per Pupil Under the Bursley Act as Amended, 1976-77 to 1978-79



system of state membership aid, under which all districts with SEV's equal to or less than the state support levels are assured of the same per pupil revenue per mill levied for operations. This has the same effect as would achieving equal SEV's at the support levels for all of these districts without accompanying state aid.[37] The system may be seen as well, and more importantly, as one that produces a wide variation in the "price" per dollar of operating funds that districts face. By "price" in this context we mean the proportion of an additional dollar of state membership aid plus local tax revenue for operations that is represented by local tax revenue. For 1978-79, the price confronted by school districts levying more than 20 mills will range from zero, where SEV equals zero, to 1 where SEV equals $45,400 or more. For districts levying less than 20 mills the relevant SEV range is extended to $50,300. To illustrate, for a district levying 30 mills and having SEV of $25,000, price is $\frac{\$25,000}{\$45,400} \times 1 = .55$, and at that SEV it remains at $.55 for all millages in excess of 20. In short, subject to a maximum of 1, price = $\frac{SEV}{42,400}$ or $\frac{SEV}{50,300}$, depending on whether the district's tax rate exceeds or falls below 20 mills. Hence as a district's SEV falls the price of a dollar in revenue that it faces falls proportionately as well. There is, therefore, a direct relationship between price and SEV for all but those few districts with SEV's above the state support level.

This variable price system contrasts sharply with the uniform price of 1 that prevailed under the pre-Bursley foundation grant program. Under that program state aid, once the mandated minimum qualifying millage was levied, was invariant with the local tax rate. Thus, while the average ratio of local tax receipts to tax receipts plus state aid varied among districts, the more relevant <u>marginal</u> ratio, the ratio of an increment in tax receipts

to the resulting increment in total operating revenue, was constant at a value of 1.

For the years prior to 1978-79, in particular 1973-74, 1974-75, and 1975-76, the years for which we have some relevant data with respect to the response of school districts to Bursley, the impact of the new system on the price of revenues for educaton was limited. As we have seen, for 1973-74 that price was 1 for all but 171 out of 531 districts, the 171 that levied less than 22 mills for operations and had SEV of less than $38,000. For 1974-75 the variance in price was considerably greater, because 260 of 530 districts levied less than 25 mills and had SEV of less than $39,000. And by 1975-76 only 135 out of 529 were subject to a price of 1, all of the remaining 394 levying less than 27 mills and having SEV's below the support levels ($42,400 for the first 20 milla and $38,250 for 20 to 27 mills).

Fiscal Consequences of Bursley

What effects should we expect the Bursley Act as amended to have had on the more obviously relevant school district fiscal variables? What we have described as the income effect, the effect of the simple size of the sum allocated to the districts, should not have been substantially greater, in the aggregate, than that exhibited from year to year before 1973-74 because the Act did not appropriate an extraordinarily large increase in total membership aid. And while some districts gained a little, some a lot, and some lost state aid, this had been true aa well through the decade prior to Bursley. If the Act did bring about major changes in millage rates, revenues, and expenditures per pupil, and if the latter two of these variables moved toward greater equality, we ahould expect that such changes are attribut-

able principally to the introduction into the system of variance in the price of revenue dollars to the districts. It is also arguable that income effects resulting from shifts among districts in the allocation of aid funds were important as well.

If we knew with confidence the value for Michigan school districts of the elasticity of per pupil operating expenditures with respect to income and with respect to price,[38] as well as these elasticities for other fiscal variables, we would have our answers.

Using data for the Commonwealth of Massachusetts, Professor Martin Feldstein has estimated the (constant) elasticity coefficients for per pupil operating expenditures with respect to price, income, SEV, and a set of other variables thought to be determinants of school expenditures.[39] Using ordinary least squares regression and a log-linear estimating equation, Feldstein's results yield a price elasticity of -1.0, elasticity with respect to SEV of .28, and for median family income, .48. His other coefficients are reasonable and his R^2 is .64.[40]

If the Feldstein estimates held for Michigan school districts we should expect to find very large changes taking place in the relevant fiscal variables in the years following enactment of Bursley. By 1974-75, the second year under the new system, well over half of the State's school districts had realized a reduction from a price of 1 to levels as low as .11 for the Rudyard Area Schools, where SEV was only $4,386, the lowest of the 530 districts.[41] Moreover, the Legislature introduced a generous, universal property tax circuit breaker in 1973, to take effect with respect to taxes paid in 1974.[42] For all resident households or individuals, owners and renters, a credit against State income tax (or rebate if no income tax is

owed) equal to 60 per cent of the excess of property tax over 3.5 per cent of income is now allowed, subject to a maximum of $1,200.[43] People aged 65 and over and several special groups, including those who are severely handicapped and disabled veterans and their widows, are entitled to a property tax credit of 100 per cent of property taxes above 3.5 per cent of income. And, for low income households among these groups, the entire tax is returned by the State if income is $3,000 or less; for income of $3,000 to $4,000 the excess over 1 per cent is refunded, over 2 per cent for $4,000 to $5,000, and over 3 per cent for $5,000 up to $6,000. Clearly for those property tax payers who might otherwise feel most heavily burdened by the tax and, perhaps, otherwise least willing to support increases in millage rates, the cost of such increases has been reduced to as little as zero, and for a very large proportion of taxpayers, probably a third to a half of the total, to no more than 40 per cent of the additional tax paid.

Under these circumstances, given the combination of Bursley and the circuit breaker, we should expect major changes in various dimensions of educational finance even if Feldstein's estimates grossly exaggerate the responsiveness of school districts to price changes.

The data presented in Table 3 offer some indications of the response of school districts to the new approach to allocation of state membership aid. We observe that per pupil operating expenditures rose rapidly in the four years between 1971-72 and 1975-76, the median district level by 52 per cent, or at a rate of 11 per cent per year. The median level of revenues per pupil from local sources (principally property tax levies) rose even faster, at the rate of over 16 per cent per year, while state aid lagged well behind, growing only at an annual rate of 7 per cent. These developments

Table 3

Levels and Measures of Dispersion for per Pupil Operating Expenditures, Local Revenues, State Aid, and SEV, and Operating Millage, K-12 School Districts, Selected Years, 1971-72 to 1975-76

Year	Minimum	Median	Maximum	Coefficients of Variation $\frac{\sigma}{\bar{X}} \cdot 100$[a]	Coefficients of Variation $\frac{Q_1 - Q_3}{2} \cdot \frac{1}{md} \cdot 100$[b]
	Operating Expenditures per Pupil				
1971-72	$ 554	$ 761	$ 1,510	15.7	8.0
1973-74	667	926	1,859	15.8	8.7
1974-75	745	1,058	2,077	15.6	8.4
1975-76	730	1,157	2,280	15.7	7.8
	Local Revenues per Pupil				
1971-72	$ 75	$ 399	$ 1,443	46.5	28.4
1973-74	133	497	1,791	46.6	32.0
1974-75	159	575	1,897	43.9	30.2
1975-76	204	658	2,176	43.3	29.0
	State Aid per Pupil				
1971-72	$ 22	$ 401	$ 383	31.4	19.2
1973-74	14	501	780	38.7	22.2
1974-75	23	512	888	43.6	27.2
1975-76	5	524	919	47.7	30.2
	State Equalized Value per Pupil				
1971-72	$2,080	$14,958	$ 66,844	51.7	29.9
1973-74	3,317	17,618	126,340	56.2	30.5
1974-75	4,386	19,714	172,720	60.1	31.1
1975-76	4,937	22,764	216,930	60.3	28.7
	Operating Millage				
1971-72	9.0	22.2	37.9	21.3	14.5
1973-74	5.0	22.2	37.7	22.0	12.7
1974-75	8.4	24.0	37.7	15.8	8.6
1975-76	8.4	25.0	37.8	15.0	8.6

[a]See Table 2.

[b]See Table 2.

Source: Derived from Michigan Department of Education, Bulletin 1012, for 1971-72, 1973-74, 1974-75, and 1975-76.

were sustained by an 11 per cent per year rise in median SEV coupled with a modest increase in operating millage rates, from a median level of 22.2 in 1971-72 and 1973-74 to 25 mills in 1975-76.

This outcome follows from the price reductions afforded to most districts under Bursley, as does the fact that the school districts of Michigan have become more heavily reliant on the property tax as state aid has lagged behind the growth in expenditures.

At the same time the variance among districts in per pupil operating expenditures, which had declined somewhat in the decade preceding Bursley, remained virtually unchanged.[44] State aid per pupil became increasingly unequally distributed, but this appears to have been offset, at least in part, by a widening of disparities in SEV. Another effect that emerges in accordance with our expectations is the big drop in the coefficients of variation for operating millage. We must observe, however, that a similarly large reduction in variance in millage rates occurred in the decade through 1971-72. Given these characteristics of changes in SEV and millage rates in particular, it is of interest to note that, whereas for 1971-72 the simple correlation coefficient relating SEV to operating millage rates was, at -.02, essentially zero, that coefficient increased to -.07 for 1973-74 and to -.19 for 1974-75. This substantial change suggests that the price incentives under the equal-yield aid program appear to be leading districts with relatively low SEV's to pick up the "bargain" offered by the State by increasing their tax rates for school operations at a rate exceeding that of higher SEV districts. We also find that the positive correlation between operating expenditures and SEV has fallen somewhat in recent years, from .59 in 1971-72 to .48 for 1973-74 and .47 for 1974-75, but it is still clearly

and strongly positive.

These findings suggest that the Massachusetts estimates do not appear to be capable of predicting the short-run consequences of the move to an equal-yield, variable-price school finance system in Michigan. But conditions in Massachusetts differ from those in Michigan, so that they should not be expected to be capsble of doing so. The Massschusetts system was enacted in 1966 and had been in operation for three years without major change by 1970, the year to which the data in Feldstein's study relate. In contrast, in Michigan school districts have yet to be confronted with the same terms under the Bursley Actfor as many as two consecutive years. Moreover, in two of the three years following its enactment major amendments have been passed and the system is under virtually continuous attack from articulate and politically powerful opponents.[45]

The cities and towns responsible for elementary and secondary education in Massachusetts are free to levy such tax rates as are deemed appropriate, whereas Michigan school districts must gain voter approval, for periods ranging from one to 20 years, for operating tax levies in excess of "allocated millage" that ranges among counties from 6 to about 11 mills. A defeat in a millsge election is a severe setback to school administrators and elected bosrds, and is not a prospect to be faced any more frequently thsn is believed necessary. Thus one cannot expect school districts in large numbers to seek millage increases they would not have sought in the absence of the price ncentive under Bursley when the terms of the new system are so fluid and ıcertain. At best, they may be expected to move with caution under such ·cumstances.

In addition, the terms of the incentives under the equal-yield system

and the property tax curcuit-breaker do not appear to be well understood. School boards and officials have only occasionally, and rarely effectively, appealed to the voters in terms of these incentives during millage election campaigns.

Thus for a year such as 1974-75, or even 1975-76, school district finances in Michigan are most unlikely to have attained a state of equilibrium in which long-run stable relationships have been established. At best fiscal data for these years reflect much uncertainty, confusion, less than full understanding of new and rapidly changing rules regarding state aid and taxation, and, as well, some movement during a period of transition towards adjustment to new terms and conditions. Nevertheless, it may be instructive to seek further insights designed to cast light on the impact of the Bursley Act and its amendments, even while recognizing that it is too soon to hope to have definitive results that can serve as a firm guide for policy purposes.

To this end we seek now to estimate the influence of various school district characteristics on changes over time in millage rates and levels of per pupil expenditures. The regression results presented in the first two columns of Table 4 are interesting because of what they tell us about the relationships between increases in operating millage rates and school district characteristics for those characteristics for which the coefficients are statistically significant. These are income (MFY), and location in a rural area (RUR) for both post- and pre-Bursley periods, and location in a central city (CE) and proportion of SEV that is in the form of residential property (RES). The signs in these instances are all as we should expect them to be, negative for rural locations and RES, and positive for income and location in a central city. In general, the results are not substantially

Table 4

Determinants of Changes in Operating Millage Rates, 1961-62 to 1971-72 and 1973-74 to 1975-76, and in Operating Expenditures per Pupil, 1961-62 to 1971-72 and 1971-72 to1974-75, Sample of 158 Michigan School Districts[a]

Variable[b]	Change in Operating Millage Rates		Change in Operating Expenditures per Pupil	
	1961-62 to 1971-72	1973-74 to 1975-76	1961-62 to 1971-72	1971-72 to 1974-75
	R^2=.15	R^2=.22	R^2=.40	R^2=.31
Constant	8.08	10.0	237	172
	(9.32)	(7.49)	(237)	(269)
SEV	-.00005	-.00004	.005*	.001
	(.00005)	(.00004)	(.001)	(.001)
SKCF	.051	.072	2.25	-2.13
	(.197)	(.158)	(5.01)	(5.70)
CE	.951	2.88*	171*	-19.1
	(1.55)	(1.24)	(39.3)	(44.7)
RUR	-3.61*	-2.22*	-35.4	14.4
	(1.15)	(.922)	(29.2)	(33.2)
SUB	-1.90	-.717	-43.7	80.5*
	(1.22)	(.979)	(31.0)	(35.2)
RES	-.015	-.052*	1.62*	.280
	(.030)	(.024)	(.751)	(.854)
PNW	-.027	-.037	-.749	5.19*
	(.049)	(.039)	(1.24)	(1.41)
MFY	.0004*	.0004*	.002	.007
	(.002)	(.0001)	(.004)	(.005)
PCHPOV	.155	.135	.510	1.79
	(.155)	(.124)	(3.94)	(4.47)
TAXO	-.033	-.037	-3.20*	2.68
	(.053)	(.043)	(1.36)	(1.54)
U.P.	-2.01	-1.87	.284	69.0
	(1.66)	(1.33)	(42.1)	(47.9)
METRO	-.521	-1.01	37.1	-5.51
	(.947)	(.761)	(24.1)	(27.4)
CENT	.442	.164	-17.1	11.9
	(1.24)	(.999)	(31.6)	(35.9)

Note: Standard errors appear in parentheses. *Statistically significant at p = .05 or <.

Table 4 (cont.)

[b]SEV = state equalized value of taxable property per pupil;
SKCF = basic skills achievement text scores, fourth grade;
CE = dummy for location in a central city;
RUR = dummy for rural location;
SUB = dummy for location in a suburb;
RES = proportion of taxable value accounted for by residential real estate;
PNW = percentage of the population that is non-white;
MFY = median family income;
PCHPOV = percentage of children living in families with income below $3,000;
TAXO = 1973 local non-school tax rate;
U.P. = dummy for location in the Upper Peninsula;
METRO = dummy for location in the Detroit S.M.S.A.;
CENT = dummy for location in the northern portion of the Lower Peninsula.

For data sources and more complete definitions of variables, see Harvey E. Brazer and Ann P. Anderson, "A Cost Adjustment Index for Michigan School Districts", in Esther O. Tron, ed., Selected Papers in School Finance, 1975 (Washington: Department of Health, Education, and Welfare, 1976).

different for the two periods, and the differences that do emerge, with respect to CE and RES, do not appear to be logically related to changes in the state aid system.

At least as interesting in these results is the fact that changes in millage rates are not found to be associated with such variables as the local non-school tax level (TAXO), a measure of "municipal overburden", suburban location, or the level of SEV.

The regression equations for change in operating expenditures per pupil are found in columns three and four of Table 4, for the periods 1961-62 to 1971-72 and 1971-72 to 1974-75.[47] For the earlier period SEV is positively related to the level of increase in expenditures, with the change in expenditures rising by $5 for each $1,000 increase in SEV. Location in a central city, as opposed to a non-metropolitan city adds $171 to the increase in expenditures, and each percentage point increase in RES adds $1.62. On the other hand, the expenditures change drops by $3.20 per pupil for each mill in the non-school tax rate.

For the period 1971-72 to 1974-75, however, SEV no longer influences the size of the district's increase in expenditures. Nor do CE, RES, or TAXO. Instead, the two statistically significant regression coefficients are those for suburban locations and percentage of the population that is non-white (PNW). The former adds $80 to the increase in expenditures and each percentage point increase in PNW adds $5.19.

Again it is of major interest to observe that MFY, the incidence of poverty (PCHPOV), and region of location do not appear to be associated with levels of change in expenditures for either the earlier or the more recent period.

We find, therefore, and not surprisingly in light of the institutional circumstances, that we can draw no positive generalizations about the effects of Bursley that relate changes in the relevant school fiscal variables to characteristics of the school districts in the State or of the communities they serve.

Some insights may be gained, perhaps, from the data presented in Table 5, which is an extension for 1973-74, 1974-75, and 1975-76 of Table 1, for 17 school districts selected to represent the full range, from Detroit, Flint, Grand Rapids, and Lansing, and some of their suburbs through the resort community of Harbor Springs to rural Rock River Township of Alger County in the Upper Peninsula. What stands out most sharply in this table is the fact that, by 1975-76, of the 12 districts that were entitled to a general membership aid allocation, six, fully half, did not levy as much as the 27 mills subject to state support. In the case of Inkster, for example, a low income, heavily black suburb of Detroit, its 1975-76 levy was 25.65 mills. Had it increased its millage to 27 it would have added $37 per pupil to its state aid while adding only $15 per pupil to its tax collections. For Detroit, levying 22.51 mills rather than 27 reduced its state aid by $69 per pupil and its tax receipts by $103. Considering the impact of the circuit breaker and this bargain offered by Bursley, defeats for millage proposals in Detroit must be offering a message we have yet to understand. For some of the districts included in the table and shown as levying less than the state support millage, the lag in response may be attributable to the fact that in the past several years school districts generally have not known the facts about the forthcoming year's state aid terms until well into August - too late to plan to hold a millage election for the current year. And some of the districts

Table 5

State General Membership Aid per Pupil,
1973-74 to 1975-76, Selected School Districts

	1973-74	1974-75	1975-76
Aid Formulas			
SEV support level	$38,000	39,000	42,400
Millage supported	up to 22	up to 25	up to 20
SEV support level	---	---	38,250
Millage supported	---	---	20 to 27

SEV and Aid per Pupil

District	SEV	Aid	SEV	Aid	SEV	Aid
Detroit	$21,650	360	22,088	381[d]	22,838	487[h]
Dearborn	55,483	0	60,674	0	68,873	0
Inkster	10,061	615	10,357	716	11,158	778[i]
Lincoln Park	19,819	400	21,640	434	24,528	453
Ann Arbor	37,841	4	42,230	0	46,667	0
Milan	20,745	368[a]	23,908	327[e]	27,466	339[j]
Rock River	8,673	509[b]	10,485	637[f]	10,860	706[k]
Harbor Springs	32,969	111	63,515	0	67,004	0
Flint	24,086	306	24,862	353	26,925	389
Mt. Morris	14,481	475[c]	15,589	541[g]	17,866	554[l]
Carman	32,955	111	36,016	75	39,287	62
Lansing	22,998	330	24,585	360	25,408	430
Leslie	12,938	551	14,066	623	15,328	656[m]
Waverly	39,946	0	47,126	0	54,218	0
Grand Rapids	22,962	331	22,764	406	22,121	518
Godwin Hts.	48,303	0	54,098	0	61,559	0
Northview	16,230	479	17,475	538	17,992	630

[a] Levied 20.13 mills.

[b] Levied 17.34 mills.

[c] Levied 20.20 mills.

[d] Levied 22.51 mills.

[e] Levied 21.68 mills.

[h] Levied 22.51 mills.

[i] Levied 25.65 mills.

[j] Levied 23.71 mills.

[k] Levied 22.75 mills

[l] Levied 23.11 mills,

[m] Levied 25.00 mills.

have been running hard in an effort to keep pace with changes emanating from Lansing. Note, for example, that Milan has raised its operating millage from 16.63 for 1972-73 to 20.13 for 1973-74, and to 21.68 and 23.71 for 1974-75 and 1975-76, respectively.

Comparison of the data for 1972-73 as shown in Table 1 with the amounts presented under the Aid columns of Table 5 offers few opportunities for generalization, other than that those districts such as Grand Rapids, which have experienced stable SEV's and which levy 27 or more mills, have fared appreciably better than those where either the levy falls short of 27 mills or SEV has grown rapidly. The principal difference, of course, between the foundation program of 1972-73 and the equal-yield system currently employed is that, while the amount of aid received turns on the level of SEV in both, it is only under the equal-yield approach of Bursley that districts are either rewarded or penalized because their operating millages are high or low. This feature continues to be defended by the proponents of equal opportunity coupled with local discretion or freedom of choice. It is attacked, on the other hand, by advocates of the view that the level of support for a child's education should not depend upon the preferences of his elders in his local community. Instead, it should be determined by people who are more competent to make proper decisions in this area, presumably the members of the State Legislature, advised by able professional educators.

Once more we observe that Michigan school finances and its state aid system in particular are obviously undergoing some rapid changes in an atmosphere in which institutional constraints do not permit prompt, highly responsive reactions from local districts. Really adequate evaluation must await some years of experience with a stable, familiar set of terms. All

that we can observe at this juncture is that we do not yet know what the consequences of Bursley may be. Bursley has not stayed put for as many as two consecutive years. And it is not now scheduled to do so until at least 1978-79 and 1979-80.

FOOTNOTES

*For useful comments and suggestions we are indebted to W. H. Locke Anderson, Robin Barlow, and Esther O. Tron.

[1]Subject to limited, "power-equalized" local "enrichment".

[2]389 Mich. 1, 203 N.W. 2d. 457 (1972).

[3]Governor v. State Treasurer, No. 53.809 (Mich., Jan. 30, 1973).

[4]390 Mich. 389, 212 N.W. 2d. 711 (1973).

[5]San Antonio Independent School District v. Rodriguez, 411 U.S.1.

[6]For a historical account of school finance in Michigan see Betty Tableman, Paying for Public Schools in Michigan (Ann Arbor: Institute of Public Administration, University of Michigan, 1951).

[7]Mich. Public Acts of 1975, No. 261, and 1976, No. 258.

[8]At p. 39.

[9]G. D. Strayer and R. M. Haig, The Financing of Education in the State of New York (New York: MacMillan, 1924).

[10] $0 = 1{,}200 - m\ (\$50{,}000)$

$m = \frac{1{,}200}{50{,}000} = .024$, or 24 mills

[11](Lansing: Michigan Legislature, 1958), p. 559.

[12]Mich. Public Acts of 1957, No. 312. A district could receive some aid if it levied more than 5 mills, but that amount of aid was reduced to the proportion that the number of mills levied bore to 7 mills.

[13]P.A. 1961, No. 111.

[14]Assuming that operating expenditures per pupil for the 534 Michigan school districts were "normally" distributed.

[15]The actual inter-quartile range was $360 to $294.

[16]Too often referred to in school finance discussions as "wealth", which it is

not, given the exclusion from the tax base of intangibles such as stocks and bonds, and, generally, household and personal effects, including furs, jewellery, art objects, and so forth.

[17] P.A. 1962, No. 221; P.A. 1963, No. 176; and P.A. 1964, No. 285. Mandated millage remained unchanged through these years.

[18] That is, assuming that the cost to the State of either combination is the same.

[19] Obviously the reader may substitute his own package or packages and derive his own alternative results simply by recalling that $A = B - m(S)$, where A is state aid per pupil, G is gross allowance per pupil, m is deductible millage, and S represents SEV.

[20] P.A. 1965, No. 199. Mandated millage remained at the level of 9 mills for full aid, reduced to zero at 7 mills, established in P.A. 1964, No. 285.

[21] P.A. 1971, No. 134 and P.A. 1972, No. 258. Mandated millage was raised in several steps to 16 mills.

[22] At lower millages, say 18 mills, the relationship would be given by a straight line with an intercept on the vertical axis of Figure 1 at $684 (.018 x $38,000) and a value of $38,000 on the horizontal axis, at which point state aid would be zero. Thus the levying of less than 22 mills has the effect of reducing state aid per pupil by a constant proportion equal to $\frac{22-m}{m}$, where m is actual millage, for all levels of SEV up to $38,000.

[23] Michigan Department of Education, Ranking of Michigan Public High School Districts by Selected Financial Data, 1971-72, Bulletin 1012 (Lansing, 1973), and Bulletin 1012 for 1972-73 and 1973-74.

[24] The standard deviation (σ) is the "root-mean-squared-deviation", that is $\sigma = \frac{\Sigma(X_i - \bar{X})^2}{N}$, where N is the number of observations, X_i the value of the variable for the i^{th} district, and $\bar{X}$ the mean value of that variable. If the observations are "noramlly" distributed, two-thirds of them should lie within the range of $\bar{X}$ plus σ and $\bar{X}$ minus σ, 95 per cent between $\bar{X}$ and 2σ either side of it, and 99 per cent between $\bar{X}$ and plus and minus 3σ.

[25] One-half of the difference between the first and third quartile values.

[26]This is a much larger increase than the difference between $\gamma = -.73$ and $\gamma = -.88$ implies; more important is the fact that γ^2, the proportion of variance in operating expenditures "explained" by state aid, rose from .53 to .77, or almost 50 per cent.

[27]P.A. 1973, No. 101.

[28]Categorical aid accounts for close to 40 per cent of total state aid for K-12 programs. Fully half of the total of categorical aid is in the form of the appropriation to the school employees' retirement systems of the State and the Detroit district, equal to 13 per cent of payrolls. The next largest is for "Special Education" and it amounts to some 18 per cent of the total, followed by transportation aid at about 11 per cent, municipal overburden at 5 per cent, and compensatory and vocational education, each with about 4 per cent. None of the remaining categorical assistance programs involves as much as $10 million of $5 per pupil in state funding.

Overall we should expect the impact of categorical aid on equalization of revenues and expenditures to be rather weak and, given the dominant role of the flat-rate contribution to the retirement systems, probably somewhat perverse. The principal means through which the Detroit schools receive assistance targeted largely to them is through the allowance for "municipal overburden", most of which goes to Detroit and has the effect of increasing the district's revenues by about $90 per pupil, or about 7 per cent of total operating revenues.

[29]General membership aid proviaions are spelled out in Section 21 of the Act.

[30]"Membership" is the number of full-time equivalent pupils in grades K-12 "actually enrolled and in regular daily attendance on the fourth Friday following Labor day of the school year". Section 5 (11) and (12). Obviously this is not an unambiguous definition and is subject to interpretation by the State Department of Education.

[31]The basic formula is: $A = (SEV^* - SEV_i)m$, where A is state aid per pupil, SEV^* is the support level of SEV, $38,000 for 1973-74, SEV_i is the district's SEV, and m is operating millage, subject to the indicated maxima. Two other transitional provisions are of interest. For the year 1973-74 only, any district levying 20 or more mills for operations was permitted to receive, in lieu of the amount computed under the standard terms for the first year under the Act, an amount equal to the membership aid per pupil received for 1972-73 less 20 mills times the excess of SEV for 1973-74 over SEV for 1972-73. The second special provision relates to districts levying less than 20 mills for operations in 1973-74 and 1974-75. For the first of these years the millage used in computing its membership aid allocation was the actual levy plus two-thirds of the difference between that levy and 20 mills, while for the

second year the aid calculation in such cases was to be based on the actual operating millage plus one-third of the difference between that millage and 20 mills.

[32] P.A. 1975, No. 261, Sec. 21(1). For 1975-76 the Act also stipulated (Sec. 21(6)) a reduction in membership aid as otherwise calculated equal to .6 per cent of each district's sum of state aid plus total property taxes levied for school operations. In Figure 2 and in the amounts indicated in the text this adjustment is ignored.

[33] Obviously numbers cannot be read in Figure 2 to the nearest dollar. The numbers used in the text are the actual calculated amounts used in drawing the chart.

[34] We refer here to "income" as simply the increase in income of the district equal to the amount of state membership aid received. "Price" is the proportion of each dollar of additional operating revenue that is met out of local tax receipts, ranging, in principle, from zero to 1. The economist will recognize that a change in price of revenue dollars will have "income" and "substitution" effects on the "quantity of education" purchased or expenditures for education by the district. It follows that a lump-sum grant of $X per pupil will have the same consequences for the income of the district as a matching grant in the same amount. But the matching grant will involve a lower price at the margin and thus additional stimulus to education spending through both income and substitution effects of the lower price per dollar of revenue.

[35] P.A. 1976, No. 258, Sec. 21(1).

[36] All of the support base values are increased at the rate of 7 per cent per year. Thus, for districts eligible for aid by reason of their SEV's lying below the support levels, maintenance of millage rates if below 30 mills (28 for 1976-77) guarantees that revenues per pupil will rise at that rate. For districts levying more than 28 mills in 1976-77 already per pupil revenues may rise very much more rapidly. For example, a district levying 35 mills on SEV of $25,000 in 1976-77, assuming its rate and SEV remained constant, would have per pupil revenues of $1,404 in 1976-77 and $1,760 by 1978-79, for a two-year increase of over 25 per cent.

[37] For 1976-77 and 1977-78 these consequences of Bursley held only for districts levying 28 mills or less and 30 mills or less, respectively.

[38] Let the elasticity of per pupil operating expenditures (X) with respect to price (P) and with respect to income (Y) be represented by E_P and E_Y. These elasticities may then be defined as

$$E_P \equiv \frac{\Delta X}{X} \div \frac{\Delta P}{P} \quad \text{and} \quad E_Y \equiv \frac{\Delta X}{X} \div \frac{\Delta Y}{Y}$$

, or, if one prefers, as the percentage change in expenditures that accompanies a one per cent change in price in the one case and income in the other.

[39]Martin S. Feldstein, "Wealth Neutrality and Local Choice in Public Education," American Economic Review, March, 1975.

[40]What these results suggest is that, ignoring other determinants as well as estimating error, we can envisage operating expenditures of Massachusetts schools as being determined by the equation $E = kP^{-1}\ SEV^{.28}MFY^{.48}$, where E = expenditures per pupil for operations, k is a constant, P = price, SEV = taxable value of property per pupil, and MFY = median family income of the Massachusetts town or city. To see how powerful the price elasticity value of -1 is, let us suppose we have two towns, W and L, where $P_W = 1$, SEV_W = \$40,000, MFY_W = \$20,000; and P_L = .62, SEV_L = \$25,000, MFY_L = \$10,000. We assume that k (estimated but not published by Feldstein) is equal to .5. Then $E_W = .5(1^{-1})(40{,}000^{-.28})(20{,}000^{.48})$ = \$1,127; and $E_L = .5(.62^{-1})(25{,}000^{.28})(10{,}000^{.48})$ = \$1,143. Thus we find that although SEV is 60 per cent higher in W than in L, incomes are twice as high, with price at 1 in W and .62 in L, it turns out that L is expected to spend \$26 more than W per pupil for school operations. Another way to look at it is to note that if price had been set equal to 1 in both W and L (as it would be under a lump-sum grant) we should have estimated E_W at \$1,127 and E_L at only \$708.

[41]Recognizing, of course, that citing one case proves nothing, it is, nevertheless, interesting to note that the operating millage levied by Rudyard rose from 10 in 1972-73 to 15 in 1973-74, and to 20 by 1974-75.

[42]P.A. 1973, No. 20.

[43]The maximum credit was \$500 for 1974 and 1975. It was increased to \$1,200 for 1976 and subsequent years under P.A. 1975, No. 233. In the case of renters 17 per cent of gross rent paid is presumed to be property tax.

[44]As may be seen in Table 3, this statement holds about equally well for the ratio of the standard deviation to the mean and the ratio of the semi-interquartile range to the median. We also computed the Gini coefficients for per pupil operating expenditures for the years 1961-62, 1966-67, 1971-72, 1973-74, and 1974-75. These coefficients, suggesting a very modest degree of inequality among districts in the distribution of operating expenditures, ranged between .04 and .05 for the pre-Bursley years and remained at .05 for 1973-74 and 1974-75. Our computations are for grouped data and may understate degree of inequality, but year-to-year comparisons, given consistency in our methodology, would appear to be valid. (For those not familiar with this coefficient we note simply that it is based on an array of school districts by level of per pupil expenditures, from lowest to highest. If per pupil expenditures were equal in all districts the Gini coefficient would have a value of 0, and it would grow larger and approach 1 as the proportion of expenditures exceeded the proportion of pupils accounted

for in the high spending districts and fell short in the low spending districts.)

[45]See, for a recent example, a recent statement by Bobby D. Crim, Speaker, Michigan House of Representatives, under date of February 4, 1977 and entitled "A New Direction: State School Aid Recommendations for 1977-78 and 1979." In his statement Speaker Crim contends that Bursley is deficient in that it provides more aid per pupil to high millage districts, other things being equal, than to low millage districts. He advocates providing a state incentive to induce school districts to levy no more than 30 mills, and a major change in the aid formula. In lieu of the 1976 legislation's provisions, Crim would substitute, for 1977-78, the following formula:

State Aid per Pupil = \$164 + millage (up to 30)x(\$40,000-SEV).

For the year 1978-79 the \$164 would be increased to \$260 and "as a condition of receiving state reimbursement on taxes levied in excess of 30 mills, we propose that a district be required to reduce its levy in direct proportion to the added aid received:

$$\text{Reimbursable mills over 30} = \frac{\text{authorized mills over 30 x SEV}}{\$40,000}$$."

We have quoted this explanation in its entirety because we do not understand it clearly enough (at all?) to be able to paraphrase or summarize it. The important fact, however, is that the leading figure among the majority party legislators is calling for major changes in a system that has yet to get through a three-year phase-in period unamended.

[46]For a description of a larger sample of 177 school districts see Harvey E. Brazer, "Adjusting for Differences Among School Districts in the Costs of Educaitonal Inputs: A Feaaibility Report", in Esther O. Tron, ed., Selected Papers in School Finance, 1974 (Washington: U.S. Department of Health, Education, and Welfare, 1974), p. 105. Our sample of 158 districts consists of those among the 177 for which all data used in our analyses were available.

[47]We avoided using 1972-73 as either a base or terminal year in our analyais because in that year the Detroit tax levy for operations dropped to 15.51 mills from 20.80 in 1971-72 and was back up to 22.51 in 1973-74.

SCHOOL FINANCE IN NEW MEXICO

EVOLUTION AND REVOLUTION*

Introduction

The primary intents of the State Equalization Guarantee passed by the 1974 New Mexico Legislature were to equalize access to revenues among the 88 school districts through a more sophisticated definition of educational opportunity and to provide a major adjustment in the method utilized in distributing state-aid by recognizing economic need. Public school finance "reform" is no stranger to veteran New Mexico lawmakers. Wiley (1968) observed that one could expect major revisions in the school-aid formula about every five years; the new directions charted in 1974 were similarly timely.

In a comprehensive analysis and critique of the 1974 Act and the 1975 Amendments, the author provided substantive descriptions of both the technical aspects and the impact of the school finance reform legislation, with a theoretical context (Hale, 1975). The purposes of this report are to review the evolutionary aspects of New Mexico public elementary and secondary school funding since 1974 and to offer an interpretation of the revolutionary aspects paving New Mexico's rocky road of public school finance funding. Firstly, the paper describes the evolution by first reviewing the basic reform of 1974 and the 1975 Amendments and then reviewing the 1976

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and 1977 Amendments. Secondly, the paper offers an interpretation of the revolutionary aspects of New Mexico public school funding.

Evolution

New Mexico's public elementary and secondary education was primarily supported by local property taxes until depression conditions in 1933 led to a State Constitutional Amendment that limited property taxes for the operation of schools and other government units (Wiley, 1968, p. 58). A special legislative session in 1934 enacted a gross-receipts tax earmarked for public school support that, combined with 75 percent of the state income tax previously earmarked for public school support, resulted in state-level support of public elementary and secondary education in excess of 75 percent of operational expenditures (Wiley, 1965, p. 54). Since that time, the State of New Mexico has traditionally supported public elementary and secondary education current expenses in excess of 70 percent.

It has been noted (Pogrow, 1975, p. 20) that since the principle of high state assumption of public education costs was established in 1934, school finance issues have focused primarily upon (1) How much should the state appropriate and from what sources, and (2) How should the state appropriations be distributed?

Regarding the latter issue, it was not until 1962 that the legislature provided a general formula for distributing state-aid to the school districts. Prior to the enactment of that formula, the legislature employed Paul Mort to conduct an all-inclusive survey of the fiscal conditions of public education in the state and to make

recommendations for distributing state revenues in an objective manner (NEA, 1969, p. 850). Following a thorough investigation, which was characteristic of Mort, he made several recommendations that essentially provided for a percentage-equalized base student support level and included a provision for local leeway. However, the 1962 legislature rejected Mort's recommendations and adopted instead the School Equalization Fund--a plan submitted by one of its members, Senator Albert Greer. The so-called "Greer Formula" was characteristic of Mort in that it provided 28 pupil weightings based upon instructional level and school size. Hughes (1967, p. 42) observed that "The term 'School Equalization Fund' may actually be a misnomer because the Fund ignores equalization based upon economic need and deals only partially with true equalization of educational opportunity."

Faced with wide-spread criticisms of the Greer Formula, including a 1965 recommendation from the Governor's Public School Study Committee to replace the Greer Formula with the 1962 Mort recommendations (Wiley, 1965, p. 112), the 1967 legislature created the Educational Research Committee (ERC) to study the financial structure of public elementary and secondary education and to recommend more equitable distributional formulae. Recommendations of the ERC were enacted in 1969, a distributional method typical of a Johns-Morphet "staffing formula" containing thirteen staff categories of professional and non-professional personnel. Based upon a district's Average Daily Membership (ADM), basic program "need" was determined by allocating a number of staff positions

(e.g., one Principal per 400 ADM) and multiplying the staff allocation by an appropriation unit established by the legislature for each category (e.g., $13,085 for Principals in 1973-74). After determining total salary costs, 25 percent of that amount was added for supportive costs (instructional materials, utilities, etc.). The state funded 70 percent of the basic program-need plus 100 percent of approved special education costs while the school districts were left to generate the remaining 30 percent of "need" through local tax sources. Unfortunately, the state-imposed uniform real property assessment ratio of 33-1/3 percent of market value and limitation on tax rates combined with extremely low property-wealth of school districts such that many districts could not generate the 30 percent local contribution to "need." Consequently, many districts never attained 100 percent of "need" during the five years that the staffing formula was in operation while a few districts generated more than 100 percent of "need" or enjoyed lower property tax rates. Illustrative is the fact that following the first year of operation, an equalization appropriation was added to the distribution which guaranteed a minimum amount of local revenue per ADM and that distribution increased to approximately 14 percent of the basic distribution in four years; thereby recognizing that poor wealth districts could not meet the 30 percent local contribution to "need."

Analysis of Previous School Finance Reform

Perea (1971) evaluated the equalization effects of both the Greer Formula and the Staffing Formula by correlating the

distributions to a measure of fiscal capacity. Firstly, he developed a fiscal capacity index for each school district by dividing the local assessed value of real property by the district's Average Daily Membership (ADM). Secondly, he correlated the fiscal capacity indicies with the dollars per ADM distributed under each dimension of each formula, as well as federal revenue for each target year. He found that most of the distributions, under both plans, produced anti-equalizing effects. Theoretically, the distribution would be equalizing if it provided revenue inversely to the fiscal capacity of the district, i.e., the coefficient of correlation approached negative-one. However, under both plans a positive correlation was found; Total State Distribution had a 0.367 coefficient of correlation for the 1968-69 Greer Formula (statistically significant at the .01 level) while Total State Distribution had a 0.278 coefficient of correlation for the 1969-70 Staffing Formula, also statistically significant at the .01 level although directionally less than the Greer Formula.

Because some school districts were unable to generate local revenue to provide 30 percent of "need" assumed under the Staffing Formula, there was evidence of wide-spread practices in hiring beginning teachers as opposed to experienced teachers with advanced degrees. As long as the school district could hire a beginning teacher at or near 70 percent of the state appropriation per teacher, then the state was contributing all, or at least a major portion, of the teacher's salary. That practice provided some relief for the poorer school districts until such time as

changes in the appropriation unit per teacher sorely lagged behind teacher salary demands. Also, the number of teachers funded under the staffing formula was determined by a schedule that allocated teachers on the basis of a pupil-teacher ratio of approximately 11 to 1 in small districts to a ratio of approximately 24 to 1 in large districts, depending upon the school districts ADM. However, attempts by this author and others to fit an equation (either linear or curvilinear) to that schedule were unsuccessful, suggesting that the relationships were arbitrary at best, and perhaps Gerrymandered at worst.

Finally, New Mexico statutes require that the Chief of Public School Finance, Department of Finance and Administration, hold annual budget hearings in each of the state's school districts; a process capable of providing excellent feedback to the executive branch of state government from local school boards and administrators relative to the fiscal needs of districts. The Chief had often criticized the staffing formula as being single-variable (based upon ADM), not meeting 100 percent of need, and lacking recognition of special program costs.

1974 Reform and 1975 Amendments

Context of the Reform

It was against the above background and widespread criticism of the staffing formula from the Chief of Public School Finance, representatives from large and small school districts, teacher unions, and legislators that the Governor formed an Advisory Committee on School Finance in the Spring of 1973. The Chief, a

staff member of the executive branch, and the State Superintendent of Public Instruction were named as Co-Chairmen of the Committee which included representatives of categorical programs, full membership of the Legislative School Study Committee (L.S.S.C.), Parent Teacher Association representatives, union representatives, and School Administrator Association representatives.

The Advisory Committee met approximately once each month between July and December with the Chief playing the key leadership role. The Chief had recently hired an individual who was completing his doctoral dissertation at the University of New Mexico in which he adapted the National Education Finance Project's (NEFP) computer-based simulation model to New Mexico. The advocacy of the Chief and Key members of the Legislative School Study Committee for a student-needs based formula and the absence of alternative proposals except modification of the discredited existing formula, established the NEFP-type weighted pupil approach and associated issues as the foci of debate.

The initial issues were: (1) how much additional money would be appropriated (the Governor had pledged a 12 percent increase) and (2) how should the money be distributed? The latter issue was readily resolved as to form by acceptance of the weighted pupil approach, leaving only the dimensions to be determined.[1] Simulated distributions of Committee requested fund-distribution alternatives

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[1]For a comprehensive review of the Committee's activity as well as other important political behavior regarding the development and passage of the reform legislation, see Pogrow (1975) and Krueger (1975).

were provided by the Chief. Although the legality of taking credit for P.L. 874 funds as local wealth remained questionable, the Committee adopted that provision. However, even when consideration was taken of the Governor's recommended 12 percent increase, redistribution of state aid under the proposed formula indicated that 58 districts would gain revenue compared to existing funding levels, and 30 districts would lose, thereby consuming 17 percent of the proposed appropriation in a "save-harmless" provision. The final meeting of the Governors Advisory Committee reviewed a proposal for a maximum increase of 12 percent each for categorical programs (Kindergarten, Special Education, and Vocational) and a total appropriation increase of approximately 15.6 percent. That recommendation, although above the Governor's commitment, became the package to be introduced by the L.S.S.C. and included only nine districts in "save-harmless" after a provision for district sparsity was amended to it. The districts remaining in the "save-harmless" category resulted primarily from large amounts of P.L. 874 funds flowing to those districts.

During the legislative session, the above mentioned school district sparsity allocation was included in the reform and the legislature resoundingly passed the package; making it clear in the Appropriations Bill that local boards should give first priority to teacher salary increases. The dollars per unit was established at $616.50 in the Appropriations Bill as were maximum increases of 12 percent each for Kindergarten, Special Education and Vocational programs and a maximum increase of 43 percent for Bilingual programs

(in the second year of funding). Overall, state support increased from approximately 73 percent to approximately 83 percent of school district operational budgets.

Provisions of the 1974 Reform Legislation

The following weightings were established:

Program	Weight
Kindergarten	1.1 (F.T.E.)
Grades 1-3	1.1 ADM
Grades 4-6	1.0 ADM
Grades 7-9	1.2 ADM
Grades 10-12	1.4 ADM
Special Education	
A/B (itinerate/resource rooms)	20.0 (total add-on units for approved program, not ADM)
C Moderately handicapped	1.9 ADM
D Severely handicapped	3.8 ADM
Vocational	0.8 (F.T.E. add-on)
Bilingual	0.5 (F.T.E. add-on)

Sparsity

Schools with ADM less than 200:

Elementary and Junior High: $\frac{200 - ADM}{200} \times 1.0 \times ADM = units$

Senior High: $\frac{200 - ADM}{200} \times 2.0 \times ADM = units$

Districts with ADM less than 4,000:

$$\frac{4000 - ADM}{4000} \times 0.15 \times ADM = units$$

Teacher Training and Experience

A weighted average of teacher training and experience is computed for each district utilizing a matrix of five training levels and five experience levels. The index is multiplied by the sum of program units (excluding special education units of approved private programs) to yield "adjusted" program units; however, no

district's training and experience index could be less than 0.95. The effect being a form of "save-harmless" for districts which had made a practice under the former formula of hiring beginning teachers.

Calculation of Need

1. A district's "need" was determined by summing "adjusted" program units, approved private school special education units and sparsity units and multiplying the total units by the unit appropriation value of $616.50. However, due to the 12 percent increases limited on some programs, the Vocational program unit amount was established at $461 and the Special Education program unit amount was established at $587. The Bilinqual program limitation did not necessitate a reduction in the unit funding level nor did the limitation on Kindergarten.

2. Local contribution to "need" was determined by summing:

   (a) 95 percent of a uniform levy of 8.925 mills on local assessed real property (LAV = 33-1/3% of Market Value);

   (b) 95 percent of the district's share of motor vehicle license fees;

   (c) 95 percent of the district's share of forest reserve funds;

   (d) 95 percent of P.L. 874 funds; and

   (e) 95 percent of regular federal vocational funds (20 U.S.C. 2141-1391).

3. The amount of the State Equalization Guarantee is determined for each district by substracting the sum of number 2 above from the "need" determined in number 1 above.

"Save-Harmless"

Any district that would receive less state revenue per ADM (not to include Kindergarten and Special Education enrollment) under the State Equalization Guarantee than under the 1973-74 staffing formula, would receive an allocation to guarantee the 1973-74 school-year funding level per ADM. However, the save-harmless amounts were reduced each succeeding year until no amounts would be provided under this provision in 1980. A special provision was made to cast one district into save-harmless due to the large grants received by that district from the Atomic Energy Commission but the district subsequently successfully challenged that proviso in federal court (Los Alamos School District v. Wugalter, et al.). The calculation for "save-harmless" was made as follows:

$$\frac{\text{1973-74 Basic Revenue}}{\text{1973-74 ADM}} - \frac{\text{1974-75 Basic Revenue}}{\text{Basic Program ADM}} \times \text{Basic Program ADM}$$

Transportation

The state provides approximately 100 percent of transportation costs. The Transportation Division, State Department of Education, approves transportation budgets for each of the 88 school districts. The Transportation Division establishes variables and rates to be used in transportation budget development.

Textbooks

Each school district and private school may participate in a special textbook fund appropriated from the Federal Mineral Leasing Fund. The amounts available to public school districts and to private schools are based on their respective elementary and secondary

ADM compared to the total public and private elementary and secondary ADM in the state. Credits are established with the State Textbook and Materials Depository and the participants draw state approved books and materials up to the amount of entitlement. The calculation for entitled credit is made as follows:

District ADM ÷ State ADM x Appropriation (minus administrative fee)

Supplementary Distributions

1. Out-of-State Tuition--100 percent state support for students living near New Mexico borders that are more economically educated in other states.
2. Emergency--need based; approved by the Chief.
3. Program Enrichment--provides for special education diagnostic services and other special-needs programs approved by the State Superintendent.
4. Special Vocational--appropriation for shared-time programs for high school students attending post-secondary Area Vocational Schools as approved by the State Superintendent.

Capital Outlay

No regular appropriation of state funds was ever made for capital-expenditures. However, the legislature appropriated approximately $3 million to be distributed on an emergency basis as recommended to the State School Board by an Advisory Council. Participatory limitations are established by law, e.g., extent that applicant district has used bonding capacity, etc. New Mexico's

Constitution limits school district debt to 6 percent of the assessed value (33-1/3 percent of market value) of real property in the district.

Provisions of the 1975 Amendments

A few technical amendments and one major provision, capital-outlay support, were added to the 1974 reform legislation by the 1975 Legislature. The pre-session sentiment of the Legislative School Study Committee was that no major adjustments should be made in the State Equalization Guarantee until evaluations had been made of its first year's operation; that sentiment prevailed. The following technical Amendments were passed:

1. The unit value for 1975-76 was established at $703. However, because the State Department of Education desired approval of vocational units beyond the Legislature's willingness to fund that program, the unit value for vocational units was established at a minimum of $500 per unit, although that amount was increased to a maximum of $700 per unit when additional regular federal vocational revenues were received.
2. Several "caps" were established as maximum funding levels for selected State Department of Education approved programs under the State Equalization Guarantee. The limits established were:

(a)	Bilingual/Multicultural	2,285 units
(b)	Early Childhood	4,071 units

(c) Special Education 16,000 units

(d) Vocational 7,700 units

3. Changes were made in the Textbook allocation to include both Kindergarten and Adult Basic Education students in calculating ADM. The legislation (HB184) also permitted up to 20 percent of a district's (but not a participating private school) credit to be used to purchase materials not on the state-adopted list.

4. Language contained in Senate Bill 257 and the fact that the Appropriations Bill contained insufficient funds to support the estimated transportation costs at 100 percent, made it necessary for local districts to assume a portion of transportation costs. The Senate Bill also eliminated categorical transportation (Regular, Special Education, Vocational) and permitted local school boards, with approval of the State Transportation Director, to establish transportation services to meet local program needs.

The general formula for calculating the state equalization guarantee is:

$$\text{State Guarantee} = \frac{(\text{Pupil})}{(\text{Units})} \times \frac{(\text{Unit})}{(\text{Value})} - \frac{(\text{Local})}{(\text{Effort})} + (\text{Categoricals})$$

Capital Outlay and/or Maintenance

The Public School Capital Improvements Act provided that if a school district would tax itself with voter approval, either one or two mills, for up to 3 years, on the assessed value of real

property in the district, then the state would guarantee for the first year of that levy $35 per mill per ADM. That guarantee was subsequently extended. The computation is as follows:

(A) $35 x number mills x ADM = guarantee, and

(b) tax rate x districts property value = local revenue.

If (A) is greater than (B) then the state's participation will be the difference (A-B). If (A) is less than (B) then there is no state participation although the district may levy one or two mills for capital improvement and/or maintenance purposes. Twenty-four districts participated the first year.

1976 and 1977 Amendments

It was noted above that no adjustments were made in the basic aid formula during the 1975 legislative session, pending at least one year's experience with the new funding methodology. Two doctoral dissertations at the University of New Mexico measured the actual expenditure differentials associated with the programs established in the reform legislation (J. Garcia, 1976 and P. Garcia, Jr., 1976). These studies reported their results to the Legislative School Study Committee prior to the 1976 legislative session. Both studies found that only 5 districts spent below the $616.50 funding unit on the base (grades 4 to 6) program. The weighted state average for that program was determined to be $763.89. If one is willing to assume that expenditure level reflects program "need," then one could conclude that the base program was underfunded by approximately 24 percent.

During the 1976 session, a major revolt was underway, led by the anti-special programs forces (Pogrow, 1977). The L.S.S.C. took the position that adjustments should be made only in those programs which were shown to be overfunded, i.e., delivering more dollars per weighted-pupil than was expended. A special session was called following the regular session to reach a compromise on the public school funding which had failed to pass during the regular session. Based upon findings of the Garcia studies and legislative compromise, the 1974 funding structure was adjusted as follows:

Program	Weight	Change
Kindergarten	1.3 (F.T.E.)	+0.2
Grades 1-3	1.1 ADM	---
Grades 4-6	1.0 ADM	---
Grades 7-9	eliminated, included with grades 10-12	
Grades 7-12	1.25	-0.05 average
Special Education		
A/B (itinerate/ resource rooms)	20.0	---
C Moderate handicapped	1.9	---
D Severely handicapped	3.5	-0.3
Vocational	---	-0.5 add-on
Bilingual	0.3	-0.2 add-on

The funding unit was established at $800 per unweighted unit for 1976-77. The compromise folded vocational funding into the newly created category of grades 7-12 and eliminated any special

added-cost funding for vocational students. The reductions in funding for Bilingual and Severely Handicapped and the increased funding for Kindergarten followed the findings of J. Garcia (1976). Program "caps" included 9,491 bilingual units, 7,222 Kindergarten units, and the 1975 level for resource rooms. No cap was applied to the Severely Handicapped program and an alternative was provided for resource room funding. Regarding the latter, a district could either maintain their 1975-76 room allocation or receive additional units computed at grades 1-3 ADM times 0.12. Also, a special "rural isolation" factor was established but it was so limiting in its qualifications that only one school district (Gallup) could benefit. The 1976 legislature continued the capital outlay support initiated in 1975.

The 1977 New Mexico Legislature made no adjustments in the program weights established in 1976. An attempt to increase the special "rural isolation" factor was also defeated. That session did, however, remove all "caps" on special programs thereby eliminating their categorical character. The 1977-78 funding level was established at $905 per unweighted unit and the capital outlay support was continued. Only one school district remains "save-harmless" following a legislative session, educationally, preoccupied with governance issues.

Equalization Effects

The theoretical equalization effects of educational finance plans must be assessed in terms of both distributional equity and

taxpayer equity. Distributional equity addresses the allocation dimension of school finance plans to test the equity concept of equal access to resources based upon need. Concomitantly, taxpayer equity addresses the revenue dimension of school finance plans to test the equity concept of equal-treatment-of-equals who have the ability to pay. Both concepts are based upon value-judgments as to what constitutes equity and each is characterized by wide differences of opinion.

Distributional equity of resources utilized for educational programming is often limited to mean that all school districts must have equal access to state and local revenues based upon a uniform definition of need. It is important to emphasize "a" uniform definition of need since there are many definitions of need and it is at that point that many opinions differ. For example, need may be defined by some to mean pupils in average daily attendance (ADA) or average daily membership (ADM) while others may prefer to define need in terms of program elements (breadth and depth of curriculum) or teacher competencies. Without reviewing the rationale for utilizing the various indicies of need, it seems sufficient for our purposes here to suggest that it is pretty hard to improve upon Cubberley's (1906) notions in that regard. That is, one moves toward accommodating need more accurately as one reduces the variations that exist in the index utilized. However, it is generally agreed among experts of school finance that an equalization model

(a) is based upon a per pupil, per teacher, or other unit of need,

(b) must address all areas of costs commonly incurred by the districts, and

(c) requires that state funds be allocated to the school districts inversely to a uniform meesure of school district wealth.

Although the courts have not established model state school finance programs as constitutionally acceptable, Alexander and Jordan (1972, p. 26) suggest that sufficient guidelines have been provided by the courts to include the following four basic alternatives:

(1) Full-State-Funding--fixed level program.

(2) Equalization Without Leeway--fixed level program.

(3) Equalization with Minimum Leeway--fixed level program.

(4) Incentive--variable level program.

However, the authors very candidly point out that no matter how psychologically or politically attractive the latter two plans may be, if indeed wide dispersions developed in expenditure levels among the districts of a state, then the plan would not meet the "equal access to educational programs" principle characteristic of third generation school finance cases.

New Mexico's school finance reform legislation is, distributionally, an equalization plan without leeway.

The plan:

(1) is based upon pupils (ADM) weighted in terms of program cost differences,

(2) Addresses all areas of costs commonly incurred by the districts, and

(3) allocates state funds inversely to local revenue generated from uniform sources at uniform rates.

Two questions need to be addressed relative to the cost-indicies established in the reform legislation. First, how adequate are the cost indicies relative to funding the various programs? Alternatively, do the indicies fully fund all costs associated with each program? The doctoral dissertations (J. Garcia, I and P. Garcia, 1976) answered the first question noting that severa programs were apparently over-funded and one program was under-funded.[2] However, the political behavior that ensued once it became known that the indicies were in error dwarfed the technical aspects of the findings (Pogrow and Swift, 1977). The 1976 compromise was to lower some of the weights and to eliminate the separate weight for vocational programs by "folding" the weight into a previously lowered grades 7-12 weight. The funding unit was increased to $800 for 1976-77, an amount equaling approximately 4.7 percent more than the computed actual base cost for 1974-75.

It could be argued that the removal of vocational programs from separate weighted pupil funding was a step backwards from meeting equalization criterion number two and thereby limiting equal educational opportunity. Volumes of research support the added-cost concept for vocational program funding and the mere application of the 0.05 weight to all students in grades 7-12 neither addresses

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or under-funded in the sense that dollars de-
ogram were greater than or less than the weighted
enditure for the particular program.

adequacy nor efficiency of funding those programs; quite the contrary, the seemingly arbitrary act violates both principles of public program funding.

The removal of all program caps on special programs was certainly a step in the right direction. One could argue effectively that program capping allows for orderly growth among rapidly expanding programs and prohibits a raid upon the state treasury. The other side of that argument is that capping reduces equal access to programs and that competent program monitoring can substantially reduce actual and potential fraudulent claims against the state.

Taxpayer equity addresses the revenue dimension of the school finance plan and concerns the relationships of state and local support and tax bases utilized. Although taxpayer equity is also couched in value-terms, Due (1970) suggests that taxpayer equity requires:

(a) equal treatment of equals--persons regarded as being in similar circumstances are taxed the same;

(b) distribution of the overall tax burden on the basis of ability to pay--measured by income, wealth, and/or consumption;

(c) exclusion from tax of persons having no tax paying capacity; and

(d) an overall progressive (or at least proportional) distribution of taxes relative to income.

It is often assumed that state taxes are more equitable than local taxes because of the differences in bases used by each and because local tax base productivities vary among communities. New Mexico is no exception. The taxpayer equity question to be addressed here is: Did the reform legislation provide for greater or less taxpayer equity?

For the 1973-74 school year, school districts operated under the staffing formula and were required to contribute 30 percent "need." Property values ranged from a high of $104,080 per ADM to a low of $2,197 per ADM; a property wealth ratio of 47.4 to 1.0. Both the wealthiest and poorest districts were levying 9.45 mills for operational purposes that year but the poorest district was not generating its 30 percent of "need." The wealthiest district had no levy for debt service (satisfying capital outlay needs from the operational levy) while the poorest district was levying an additional 3.323 mills for that purpose.

Under the reform legislation (1975 Amendments) assistance was provided for capital outlay or maintenance and the uniform levy of 8.925 mills for operational purposes reduced the tax rate for most districts and yet provide 100 percent of current expense need for all districts. Since the state charges back 95 percent of the amount that the uniform levy will raise, the wealthiest district contributes significantly more toward its "need" per ADM than does the poorest district (about 47 times more if similar needs can be assumed). The effect of the charge-back is to allow more state resources to flow to the less wealthy districts and for the most wealthy districts to

contribute more toward theid "need." However, it should be pointed out that less than 5 percent of New Mexico's 88 school districts had property value in excess of $40,000 per ADM and that over 75 percent of the students lived in school districts with less than $10,000 of property value per ADM. The statewide district average was $11,142 in 1973-74.

The reform legislation not only equalized on the property tax bases of school districts but also equalized on the districts' share of state motor vehicle license fees, districts' share of forest reserve funds, districts' P.L. 874 funds and districts' receipts of regular federal vocational funds. Each of those operational revenue receipts vary among districts and are perceived to be educationally non-categorical and therefore require inclusion in the equalization computation as "local" revenue to reduce the disparities that they create.

Although distributional equity has been the central feature often highlighted about the reform legislation, the uniform millrage and expanded definition of "local" revenue and their 95 percent charge-back, provides substantive taxpayer equity. Coupled with the fact that local contribution to "need" represents only about 13 percent of the total current expense, the 5 percent non-equalized variance remaining in "local" revenue amounts to less than one percent of current expenses for elementary and secondary education. This funding stratagem has long been held to be one of the most equitable methods upon which to base state assistance--dating back to 1923 when Strayer and Haig proposed it.

Analysis and Critique of Local Effects

The ultimate question to be asked about public school finance reform legislation is, "What difference, if any, did it make at the program level?" Several effects have already been identified in earlier sections of this report. Namely, the expansion of funding for early childhood, special education, vocational education and bilingual/bicultural programs have had substantive local impact. The increase in teacher's salaries was mentioned briefly as was the capital outlay and maintenance support. The latter is characterized by including tax-exporting to the state resulting from any district with large enrollments of Native American children since Indian lands are not taxed. The same is true regarding the State Equalization Guarantee.

The major local impacts of the reform legislation were threefold. Firstly, the definition of local revenue was expanded to significantly reduce variability in fiscal capacity among school districts. Graph 3 in the Appendicies demonstrates the wide variability in fiscal capacity if that definition is limited to local property value. The range in actual local revenue received under the staffing-formula in 1972-73 was from approximately $40/ADM to approximately $690/ADM--all generally unequalized. Graph 4 in the Appendicies demonstrates the changes made in Graph 3 if the definition of fiscal capacity is changed to include revenues from property taxes and P.L. 874, Forest Reserve and A.E.C. receipts. The range in wealth increases somewhat ($50/ADM to $790/ADM) and the order of the low to high wealth districts changes dramatically;

thus the need for inverse distribution of state dollars to "local" revenue.

Secondly, the uniform tax rate and expanded definition of local wealth combined with their charge-back as local contribution to need, significantly equalizes accesses to resources for local school boards. It was noted earlier in the report that under the staffing-formula some districts could not generate their 30 percent of local contribution to need while other districts enjoyed expenditure levels beyond 100 percent of need. Graph 3 clearly illustrates that pre-reform condition. However, Graph 1 illustrates the effect of the equalization plan upon equal access to revenues (the Serrano-Rodriquez principle). Alternatively, Graph 2 demonstrates the effect of equalizing, as described above, but leaving P.L. 874 funds unequalized (Nakkai v. Kilpatrick). The effect would have been to reduce the unit value for 1974-75 from $616.50 to $587 and provide substantial amounts of unequalized revenues to some districts. A condition similar to pre-reform, only the names of the wealthy would be changed. And, given the Garcias' finding that the basic program was under-funded by approximately 24 percent would only have further anti-equalized.

Thirdly, the reform defines "need" in terms of cost differences associated with programs for different categories of children-needs. That method of defining program need (funding parity) is probably the most sophisticated available today. It significantly reduces the program funding disparities experienced under uniform definitions of need based upon Enrollment, Average Daily Attendance (ADA) or Average Daily Membership (ADM).

Correlations were computed for each of the budget categories comparing 1973-74 expenditures with 1974-75 (first year of the reform) budgets. All basic accounts (administration, instruction, transportation, etc.) had correlations in excess of 0.97 and many were 0.99. Only the Attendance Services series showed weakness at 0.48. This analysis only suggests that districts spent increased revenues for similar things while the salary increases noted above suggests that a substantial amount of the added resources went toward price increases of similar commodities and services. Given the facts that 1974-75 was the first year and that local boards were not constrained to show categorical expenditures, suggests that their expenditure patterns may change in subsequent years as they become more understanding of and sophisticated with zero-based budgeting concepts.

Normative analyses of expenditures per AOM are inappropriate and will not be addressed here. However, it is important to note that under the weighted-pupil definition of need, urban districts generally benefit substantially due to increased numbers of special program enrollments, unless funding levels are constrained through partial funding (lower vocational program unit value at $500 vs. $704 for other units) or through State Department of Education approval (2 out of 100 kindergartens "approved" for Albuquerque). Albuquerque school district had expanded its programs for exceptiona children beyond state support of those programs prior to the reform legislation. Testimony of personnel from that district before the Legislative Finance Committee suggests that the district was not

being funded for their identified need under the first year of the reform legislation also. In terms of districts that gain and districts that lose resources under the reform legislation, two factors must be taken into account. The technical aspects of the formula favor the urban district (special program factors) and the small districts (sparsity factors) but the special programs "approved" by the State Department of Education (DOE) may inhibit the formula from working unless objective means are employed for program approval. Otherwise the State Department of Education may be guilty of the same propensities noted in Perea's (1971) study. The 1976 legislature allowed school districts to either receive DOE approved resource rooms or to receive a per pupil allocation for resource rooms. Obviously the latter is unrelated or at best marginally related to need; again, a step backwards from equalization and violation of the adequacy and efficiency principles.

Only two districts were saved-harmless for 1976-77 and those districts could be said to be "losers" since their state allocations are held to the 1973-74 funding level. However, their total program dollars per unit for 1974-75 were $903 and $1031 respectively--as compared to a state unweighted mean of approximately $700/unit for Fiscal Year 1976, and $800 per unit for Fiscal Year 1977--hardly "losers" in the equity sense of the word. Only one district is saved-harmless for Fiscal Year 1978.

Equally important to the analysis of local effects was the data presented for 1977 legislation. Those data show decreases in overall basic enrollments (grades 1-12), decreases in bilingual

enrollments, a large increase (21 percent) in kindergarten, but only 5 percent increase in special education--a program that had increased 25 times its enrollment of 6 years ago.

REVOLUTION

Given the facts that (1) the New Mexico formula is technically competent to equalize educational resources, (2) only two districts participated in the "save-harmless" feature during 1977 and one for 1978, and (3) eighty-four percent of the districts qualify for capital-outlay assistance, one might assume that all is well with public school funding in New Mexico and can only get better. Couple those facts with the knowledge that New Mexico qualifies for P.L. 874 charge-back under federal regulations, has successfully defended several legal challenges, and their plan qualified under the Section 842, P.L. 93-380 aid to states, the future may seem bright indeed. One may be tempted to refute Wiley's (1968) observation that school finance reform in New Mexico follows a cycle of approximately five years, as one from antiquity.

However, one must understand that public school related employment opportunities in New Mexico may transcend lofty goals of equalization and equity among a significant portion of the population. Redistribution of resources based upon "need" takes on a different meaning in that context--"need" becomes an employment opportunity often related to political patronage. Employment of administrators, teachers, custodians, food services workers, is often under the watchful eye and advice of state legislators, especially in the many rural districts where schools are the major

employers. Pogrow and Swift (1977) provide substantive evidence of just such a power struggle in 1976 and seemingly with the support of the "palace guard" (Public School Finance Division). Another significant observation by those authors is the fact that the legislators are gaining a clearer understanding of the technical aspects of the weighted-pupil funding formula and they are engaging in "manipulating" behaviors. Evidence of that observation emanates from the 1976 uprising by the anti-special program faction, retribution toward the D.O.E. by removing vocational programs and resource room approvals, and the special one-district rural isolation adjustment.

The Greer-formula was short-lived because few understood it. The staffing formula that replaced the Greer-formula shifted legislative attention to funding staff salaries with an occasional addition of a staff category (job creation). The staffing categories had been slow additions to employment opportunities in rural impoverished districts and had little support during the 1974 reform. The 1975 capital outlay distribution brought additional dollars (and jobs) and now the art of pupil-weight manipulation seems to have become the consuming behavior of state power politics. Pogrow and Swift recommend (perhaps naively) that a structure be developed to ensure an orderly process for pupil-weight revisions; that, however, would most certainly lead to an immediate revolution for a different formula.

Three studies currently operational under the auspices of the Section 842 aid, are studies of capital outlay needs, trans-

portation costs, and sparsity costs. Capital outlay and transportation have gotten considerable legislative attention these past three years and are expected to get more--employment is associated with each. Increases in sparsity factors would also deliver more dollars to school districts.

The powerful Legislative Finance Committee has already explored the possibility of their own computer-based school finance simulation model. Perhaps at this writing the capability exists with that body. The purposes of that capability can only be to monitor the administration's proposals and to develop their own; again, manipulative behaviors.

What are the prospects of a "new reform" in public school finance practices in New Mexico? Probably not very good in the sense of sweeping reforms such as the 1974 legislation; the current formula can be politicized and that is happening in some instances to the detriment of equal educational opportunity and program funding equity. However, given the technical progress since 1974 and the compromise of the 1976 attempted revolt, it seems that the five-year school finance revolution cycle noted by Wiley may be replaced by in-depth analysis of alternatives and the mis-directed legislative debate based on parochialism now turned to pupil needs.

Summary

The evolution of public elementary and secondary school funding in New Mexico since the 1974 reform has been characteristic of New Mexico political behavior (Pogrow, 1977). To the 1974 weighted pupil formula was added a limited guaranteed-yield

distribution for capital outlay in 1975 Amendments. An attempted revolt by the anti-special programs forces in 1976 resulted in two steps backwards from the public finance funding principles of adequacy and efficiency. The compromise of that tumultuous legislative session provides for a general distribution (based upon grades 1-3 ADM) of special education resource rooms and eliminated completely weighted-pupil funding for vocational education. The 1977 legislature took another step forward by removing all "caps" from special programs, thereby fully integrating them into the funding structure and removal of their categorical characteristics.

Two studies reported in 1976 contributed to adjustments in the program weight for kindergarten and severely handicapped students. The studies further highlighted that districts were spending approximately 24 percent more on the base program (grades 4-6) that was established in the base student allocation. The base student allocation was for 1974-75, $616.50; for 1975-76, $703; for 1976-77, $800; for 1977-78, $905.

The method of recognizing local revenues under the reform was a significant departure from the pre-reform method as was the computation of state-local shares. The definition of local revenue was expanded beyond the uniform tax rate (8.925 mills) against uniform property assessment (33-1/3% of market value) to include revenue received from motor vehicle license fees, P.L. 874 receipts, regular federal vocational funds, and forest reserve distributions. The charge-back of 95 percent of those revenues as

local-shares substantially equalized school revenue among the 88 school districts of the state. Unequalized "local" revenues were computed to be about one percent in 1974-75 and state revenues supported approximately 83 percent of current expense.

There is evidence that growing awareness of members of the legislature relative to the technical aspects of the formula has produced some attempts to manipulate the weighting scheme to the advantage of certain interest groups. That activity is not seen to be totally inappropriate since the ensuing debates have a pupil-program focus and that is where it ought to be. Wiley's (1968) observation that New Mexico public school finance reform occurs approximately every five years may not hold true in 1979 or 1980. The successful defense against taking credit for P.L. 874 revenues (Nakkai v. Kilpatrick), the compromise of 1976, and the state's use of Section 842 funds for evaluating capital outlay needs, transportation costs, and sparsity relationships, seem to indicate that substantive reform may be a decade or more away. However, it "grows-as-it-goes."

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GRAPH 1
EQUALIZATION EFFECT OF NEW SCHOOL FINANCE FORMULA
GRAPH 1 DEMONSTRATES THE EQUALIZATION OF FINANCIAL RESOURCES AT $616.50 PER PROGRAM UNIT. ALTHOUGH LOCAL AND FEDERAL SHARES VARY MARKEDLY BETWEEN DISTRICTS, EVERY DISTRICT RECEIVES SOME STATE AID TO REACH $616.50 PER UNIT OF NEED. LOCAL, FEDERAL, AND STATE SHARES ARE INDICATED AS FOLLOWS:
LOCAL DOLLARS PER UNIT
FEDERAL DOLLARS PER UNIT
STATE DOLLARS PER UNIT
587
616.50
District
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700

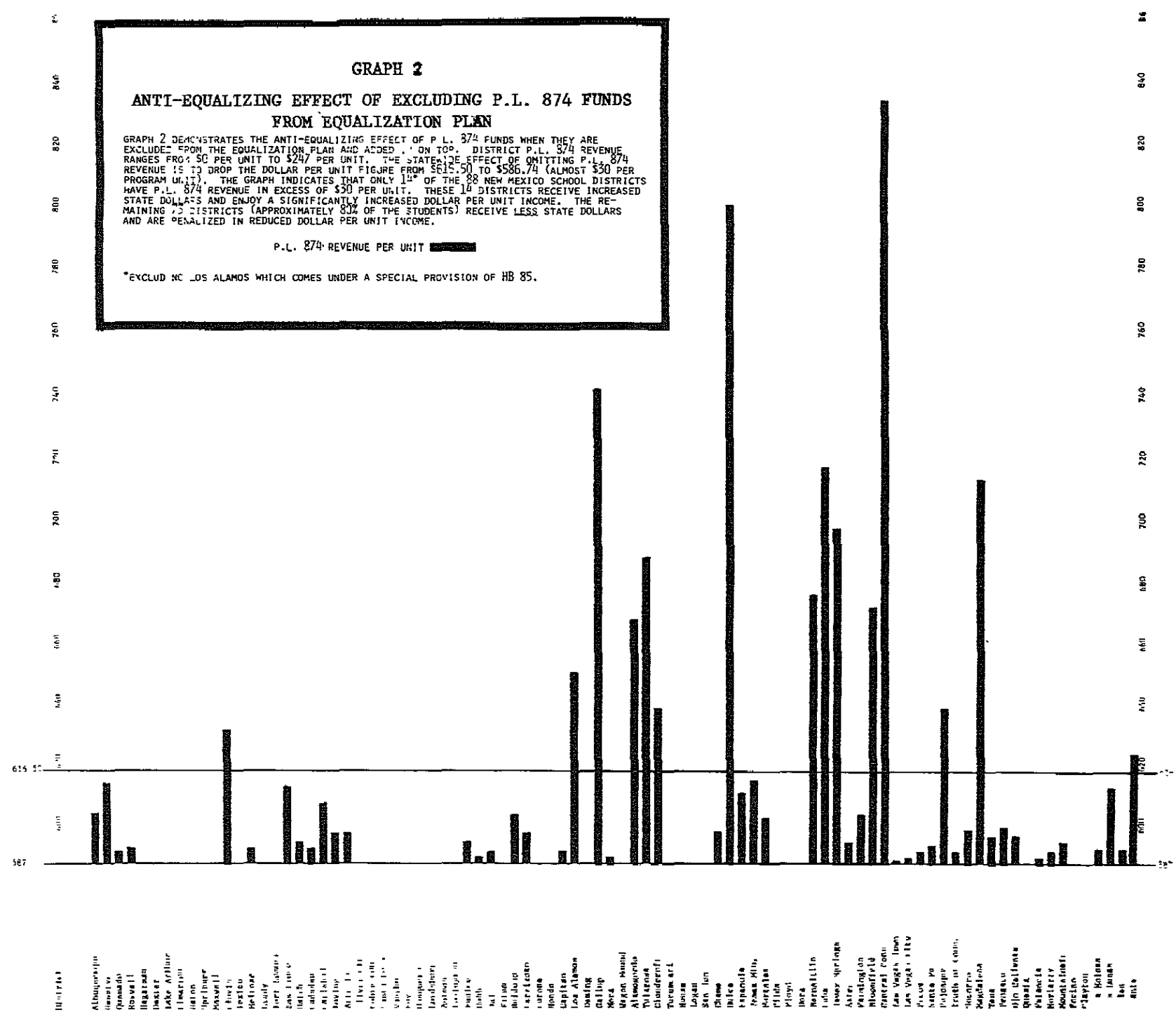
GRAPH 2

ANTI-EQUALIZING EFFECT OF EXCLUDING P.L. 874 FUNDS FROM EQUALIZATION PLAN

GRAPH 2 DEMONSTRATES THE ANTI-EQUALIZING EFFECT OF P.L. 874 FUNDS WHEN THEY ARE EXCLUDED FROM THE EQUALIZATION PLAN AND ADDED ON TOP. DISTRICT P.L. 874 REVENUE RANGES FROM 50 PER UNIT TO $247 PER UNIT. THE STATEWIDE EFFECT OF OMITTING P.L. 874 REVENUE IS TO DROP THE DOLLAR PER UNIT FIGURE FROM $615.50 TO $586.74 (ALMOST $30 PER PROGRAM UNIT). THE GRAPH INDICATES THAT ONLY 14* OF THE 88 NEW MEXICO SCHOOL DISTRICTS HAVE P.L. 874 REVENUE IN EXCESS OF $30 PER UNIT. THESE 14 DISTRICTS RECEIVE INCREASED STATE DOLLARS AND ENJOY A SIGNIFICANTLY INCREASED DOLLAR PER UNIT INCOME. THE REMAINING 73 DISTRICTS (APPROXIMATELY 80% OF THE STUDENTS) RECEIVE LESS STATE DOLLARS AND ARE PENALIZED IN REDUCED DOLLAR PER UNIT INCOME.

P.L. 874 REVENUE PER UNIT

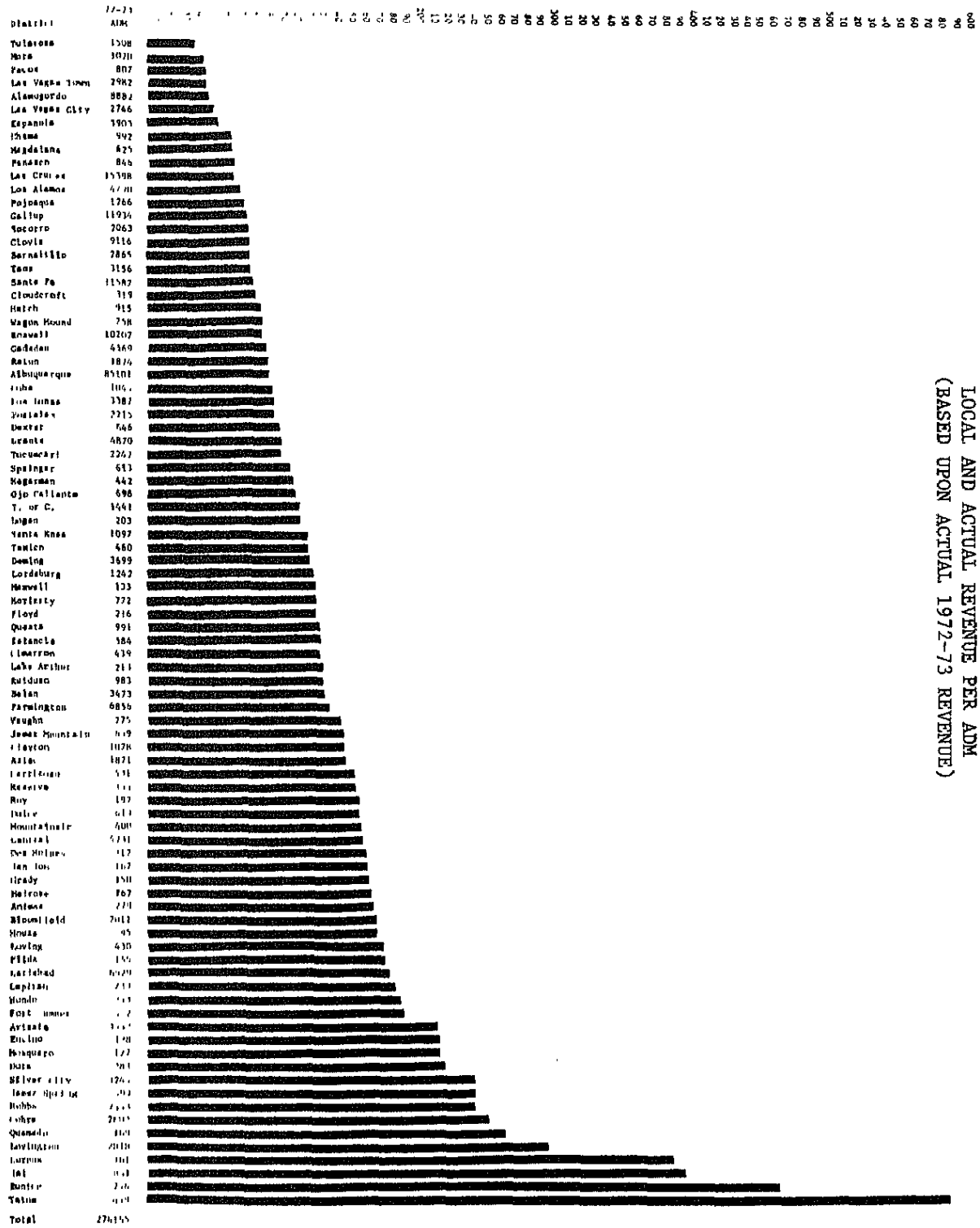
*EXCLUDE NO LOS ALAMOS WHICH COMES UNDER A SPECIAL PROVISION OF HB 85.



GRAPH 3

LOCAL AND ACTUAL REVENUE PER ADM
(BASED UPON ACTUAL 1972-73 REVENUE)

PUBLIC SCHOOL FINANCE DIVISION
STATE CAPITOL BUILDING
SANTA FE, NEW MEXICO 87501
JANUARY 7, 1974

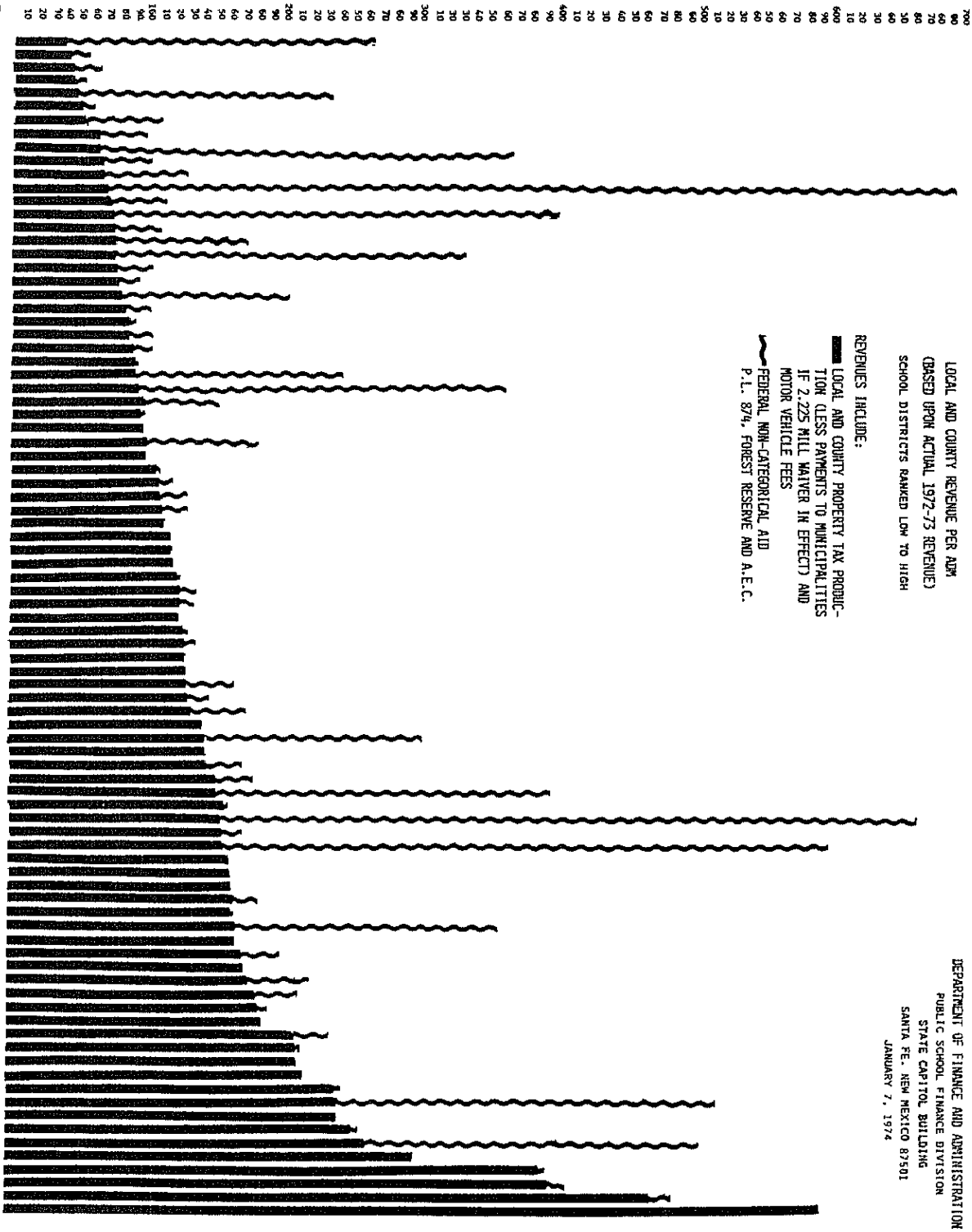


Revenues include: Local and county property tax production (less payments to municipalities if 2.225 mill waiver in effect) and motor vehicle fees

GRAPH 4

LOCAL AND COUNTY REVENUE PER ADM
(BASED UPON ACTUAL 1972-73 REVENUE)
SCHOOL DISTRICTS RANKED LOW TO HIGH

REVENUES INCLUDE:
- LOCAL AND COUNTY PROPERTY TAX PRODUCTION (LESS PAYMENTS TO MUNICIPALITIES IF 2.225 MILL WAIVER IN EFFECT) AND MOTOR VEHICLE FEES
- FEDERAL NON-CATEGORICAL AID P.L. 874, FOREST RESERVE AND A.E.C.



District	72-73 ADM
Tularosa	1108
Hora	1070
Pecos	807
Las Vegas Town	2982
Alamogordo	8882
Las Vegas City	2746
Espanola	5903
Chama	592
Magdalena	623
Farmaco	846
Las Cruces	15398
Los Alamos	4790
Pojoaque	1266
Gallup	11934
Socorro	2063
Clovis	9116
Bernalillo	2865
Taos	3136
Santa Fe	11582
Cloudcroft	319
Hatch	915
Wagon Mound	258
Roswell	10207
Gadsden	4189
Raton	1874
Albuquerque	85108
Cuba	1045
Los Lunas	3382
Portales	2715
Dexter	648
Grants	4820
Tucumcari	2242
Springer	613
Hagerman	442
Ojo Caliente	698
T. or C.	1441
Logan	205
Santa Rosa	1097
Texico	460
Deming	3899
Lordsburg	1242
Maxwell	193
Moriarty	772
Floyd	216
Questa	991
Estancia	584
Cimarron	439
Lake Arthur	213
Ruidoso	983
Belen	3473
Farmington	8816
Vaughn	275
Jemez Mountain	659
Clayton	1078
Aztec	1871
Carrizozo	431
Reserve	354
Roy	197
Dulce	619
Mountainair	400
Central	4731
Des Moines	217
San Jon	167
Grady	150
Melrose	247
Animas	229
Bloomfield	7011
House	95
Loving	430
Elida	155
Carlsbad	6329
Capitan	239
Hondo	243
Fort Sumner	552
Artesia	3542
Encino	128
Vosquero	127
Dora	283
Silver City	3244
Jemez Springs	599
Hobbs	7443
Cobre	2602
Quemado	169
Lovington	2818
Corona	161
Jal	851
Eunice	736
Tatum	449
Total	226155

DEPARTMENT OF FINANCE AND ADMINISTRATION
PUBLIC SCHOOL FINANCE DIVISION
STATE CAPITOL BUILDING
SANTA FE, NEW MEXICO 87501
JANUARY 7, 1974

EQUALIZATION OF SCHOOL CONSTRUCTION FINANCING

The intent of this paper was to gather and analyze relevant data concerning equalization of local school districts' ability to finance their school construction and debt service requirements.

A prior study presented data for school districts of five selected states, each with differing approaches to financing capital improvements.[1] For each of the five states, great disparities in debt service needs, per pupil debt load, debt potential, and tax rates were observed. As expected, these disparities were based on two factors - the local tax base and the relative randomness of school facility requirements.

Since the Serrano decision, many states have made significant changes in the methods of financing current operation programs. Considerable research has been conducted to ascertain, nationwide, the degree of equalization of opportunity and of tax burdens. No such research has been reported for school construction and debt service requirements. Given that all of the states have utilized some system of state subventions for current operation, while only half

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[1] Wilkerson, William R., Problems and Issues of Fiscal Neutrality in Financing School Construction, School Finance Task Force, U.S. Office of Education, June, 1973, mim.

William R. Wilkerson, Indiana University, Bloomington Indiana

have directly participated in funding of construction or debt service, it follows that equalization should be more nearly accomplished in the current operation sector.

It is well established that the range of per pupil tax base among school districts within a state may be extremely wide. An Arizona court spoke to the consequences as follows:

> *However, funds for capital improvements in school districts are even more closely tied to district wealth than are funds for operating expenses. The state and county make no contribution whatever to the costs of capital improvements. The capability of a school district to raise money by bond issuee is a function of its total assessed valuation.*[2]

Table 1 shows the amounts of state grants for school construction/debt service and their relationships to total grants for K-12 education for 1975-76. Twenty-six of the 50 states were granting funds for school building purposes, with such grants totalling $1.6 billion - less than ten percent of total state apportionments for those 26 states, and less than six percent of the $28.5 billion in total state grants.[3]

These data indicate that most states have not yet seen fit to place high priority on involvement in financing of school buildings. Grants of less than $10 million are made by each of six states, and only five granted more than $100 million.

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[2]Hollins v. Schoffstall, Superior Court of Arizona, Mancopa County, No. C-253652, June 1, 1972.

[3]A capsule description of each state's grant program for debt service or capital outlay is contained in Appendix B to this report.

TABLE 1. STATE GRANTS FOR SCHOOL BUILDING PURPOSES, 1975-76, AND RELATIONSHIP TO TOTAL STATE GRANTS FOR K-12 EDUCATION (in $ millions)

State	Total State Grsnts for K-12 Education	School Building Granta			Total School Building Grants	Building Grants as % of Total
		For Conatruction Only	For Debt Service Only	Conatruction or Debt Service		
Alabama	$ 430			$ 1.9	$ 1.9	.4
Alaska	202	$ 20.0	$ 8.8		28.8	14.3
Connecticut	240	22.8			22.8	9.5
Delawsre	165	13.7	16.8		30.5	18.5
Florida	1,208			145.3	145.3	12.0
Georgis	600			33.7	33.7	5.6
Hawaii	274	64.9			64.9	23.7
Illinois	1,951		362.3		362.3	18.6
Indiana	1,510		43.0		43.0	8.4
Kentucky	371			50.4	50.4	13.6
Maine	128		20.8	.6	30.4	23.8
Maryland	561			92.4	92.4	16.5
Massachusetts	671	114.7			114.7	17.1
Michigan	1,127		14.6		14.6	1.3
Missisaippi	289			8.7	8.7	3.0
New Hampahire	19		5.3		5.3	27.9
New Jersey	802		11.7	23.0	34.7	4.3
New Mexico	247	13.2			13.2	5.3
New York	3,028			226.0	226.0	7.5
Pennsylvania	1,681		159.9		159.9	9.5
Rhode Island	94			7.4	7.4	7.9
South Carolina	313			19.1	19.1	6.1
Tennessee	347			13.4	13.4	3.9
Utah	216			3.6	3.6	1.7
Vermont	46			3.3	3.3	7.2
Washington	732	61.5			61.5	8.4
Totals	$16,565	$310.8	$643.2	$628.8	$1,591.8	9.6
Add Other 24 States	11,944					0.0
	$28,509	$310.8	$643.2	$628.8	$1,591.8	5.6

Source: Preliminary data for each state compiled by USOE entitled Public School Finance Program, 1975-76.

Table 2 shows the historical pattern of state grants for school building purposes. Total amounts granted have increased significantly but the number of states participating in such programs has not changed appreciably. Nineteen were involved in 1950-51, and from 24 to 26 for each subsequent year shown.

For 1975-76, grants of five states accounted for $1 billion, or 63 percent of the total granted by 26 states. While the amount of funds involved did more than double from 1968-69 to 1975-76, construction and debt service charges also increased greatly. School building costs are conservatively estimated to have increased by ten percent per annum during that time period (totalling 95 percent due to compounding) and interest rates on school building bonds reached historic highs.

Based only on observation of the foregoing tables, it would be difficult to conclude that any trend toward greater fiscal neutrality (as measured by levels of state support) was operative.

Several states also loan funds to local school districts, often at attractive interest rates as compared to the market. While most such loans must ultimately be repaid, usually from property tax levies, the net effect of such loans on equalization among districts is unknown.

In states where the majority of school construction is financed by bonds, it is alleged that fiscally-weak school

TABLE 2. AMOUNT OF STATE FUNDS AVAILABLE FOR GRANTS TO LOCAL SCHOOL DISTRICTS FOR CAPITAL OUTLAY AND DEBT SERVICE, SELECTED YEARS*
(in $ millions)

	1950-51	1956-57	1962-63	1968-69	1975-76
Alabama	$ 1.5	$ 2.0	$ 2.0	$ 2.0	$ 1.9
Alaska	.5	1.5	.8	1.6	28.8
California	7.1				
Connecticut	.5	3.0	8.7	16.0	22.8
Delaware	2.9	7.1	12.2	15.7	30.5
Florida	6.0	11.8	17.9	56.5	145.3
Georgia		14.3	20.0	28.3	33.7
Hawaii	M	.4	6.6	30.3	64.9
Illinois				1.9	362.3
Indiana				46.6	43.0
Kentucky		8.6	11.2	20.8	50.4
Maine			.9	4.0	30.4
Maryland	7.0	4.0	11.2	50.5	92.4
Massachusetts	1.2	9.8	16.2	23.7	114.7
Michigan	3.0	7.3			14.6
Mississippi	1.0	5.0	7.5	6.6	8.7
Missouri	.6	1.8	1.1	1.8	M
New Hampshire		.3	1.1	2.9	5.3
New Jersey		10.7	15.9	28.6	34.7
New Mexico					13.2
New York	2.0	10.0	116.2	184.0	226.0
North Carolina	23.3	14.2	.2	8.4	
Ohio	1.9	8.7			
Pennsylvania	.4	13.2	35.0	50.0	159.9
Rhode Island	M	M	1.6	4.1	7.4
South Carolina		25.5	2.3	16.4	19.1
Tennessee	6.3	7.7	8.8	10.4	13.4
Utah		1.4	3.4	4.2	3.6
Vermont		1.2	4.4	4.6	3.3
Virginia	6.9	1.4			
Washington	3.2	17.3	20.0	13.0	61.5
West Virginia	3.1	M			
Totals	$78.1	$187.0	$325.3	$632.9	$1,591.8

*States granting less than $100,000 excluded. Letter "M" indicates that grants of less than that amount were made.

Sources: 1975-76 data was obtained from USOE preliminary reports for each state entitled Public School Finance Programs, 1975-76. Data for other years from Barr, W.M. et al., Financing Public Elementary and Secondary School Facilities in the United States, National Educational Finance Project Special Study no. 7, Indiana University, Bloomington, pp. 142-43.

districts are usually confronted with the double penalty of higher interest costs on borrowed funds and higher tax rates to service debt. Interest costs may be influenced by quality rating assigned by Moody's Investors Service or by Standard and Poor's, and such ratings are related to debt load and tax base, among other factors.

The major thrust of this study is to report on existing variations (of local school districts) within and among the states with respect to ability to support capital outlays. Specifically analyzed were:

1. Per pupil school building debt for bonds, state loans, and obligations to authorities
2. Per pupil annual debt service charges
3. Effective property tax rates for debt service and relationship to effective property tax rates for all school purposes
4. Relationship of debt service payments per pupil to current expenditures per pupil
5. Effective property tax rates for capital reserve funds and relationship to effective property tax rates for all school purposes
6. Relationship of reserve fund receipts per pupil to current operating expenditures per pupil
7. Debt potential per pupil and per district
8. Per pupil entitlements from the state for school construction and/or debt service
9. Assigned Moody ratings and relationship to other variables.

An intended purpose, which could not be successfully realized, was to obtain estimates of school building needs

in terms of classrooms and dollars. For a variety of reasons, this was not accomplished. Problems with defining "needs," lack of data in state education agencies, lack of plans by local school districts, and lack of specificity in the data gathering instrument were responsible.

One of the values of this study is that it can provide comparative data on school capital ability so that policy-makers may utilize it in redesigning state support programs. This report may be particularly timely in that the several states are beginning to develop new state support plans as a response to Section 842 of P.L. 93-380. Such plans are to provide for equalization of educational opportunity, and among "equity guidelines" to be addressed are (1) Adequacy of educational programs, (2) Cost variations, (3) Comprehensiveness of program, (4) Equalizing Financial Ability, and (5) Tax Support. Financing of school facilities is closely related to each of these five guidelines.

Procedures

A questionnaire[4] was developed and sent to each state education agency except for Hawaii. Where data were available at the SEA to provide the information for 15 selected districts distributed among low, average, and high ability, the responses were made at that level. In most cases, how-

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[4]Questionnaire is included as Appendix A.

ever, the SEA sent the questionnaire directly to the local district where responses were made and mailed back to the researcher.

Most of the data needed for the analyses made in the study were obtained from the questionnaire. Notable exceptions were district enrollment, obtained from USOE reports, and the Moody rating, unknown by many of the responding states or school districts but obtained from publications of Moody's Investors Service.

Usable responses came from 519 school districts from 43 states.[5] Computational procedures used permitted inclusion of all 519 with no values computed or entered into the analyses for missing data items.

The following variables were obtained directly from the questionnaire or from published reports:

1. Enrollment
2. Current Expenditure
3. Debt Principal Payments
4. Interest Payments
5. Total Debt Outstanding
6. Local Tax Receipts for Debt Service
7. Local Tax Receipts for Reserve Funds
8. Local Tax Receipts for Current Operations
9. Assessed Valuable of Taxable Property
10. Ratio of Assessed to Market Valuation
11. Debt Limitation
12. Moody Rating
13. Amount of State Grant Received
14. Percentage of State Grant for Construction or Debt Service
15. Existence of State Loan Program.

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[5]Non-participation states were Florida, Massachusetts, Michigan, New Jersey, North Carolina, and Washington. In addition, the returned questionnaires from Tennessee were misplaced by the researcher and were not analyzed.

From these inputs, computed variables were:

1. Per pupil School Building Debt

2. Per pupil Debt Service Costs

3. Per Pupil Current Expenditures

4. Full Valuation of Property (Assessed Valuation ÷ Assessment Ratio) - District and Per Pupil

5. Per Pupil: Local Tax Receipts for

   a. Debt Service
   b. Reserve Funds
   c. Current Operations
   d. All School Purposes

6. Effective Tax Rates for

   a. Debt Service (Local Debt Service Receipts ÷ Full Valuation)
   b. Reserve Funds (Local Reserve Fund Receipts ÷ Full Valuation)
   c. Current Operations (Local Receipts for Current Operation ÷ Full Valuation)
   d. All School Purposes (All Local Tax Receipts ÷ Full Valuation)

7. Ratios of

   a. Debt Service Expenditures to Current Expenditures
   b. Debt Service Local Tax Receipts to All Local Tax Receipts
   c. Reserve Fund Local Tax Receipts to All Local Tax Receipts

8. Debt Potential Per Pupil (Debt Limit Per Pupil less Debt Per Pupil)

9. State Entitlements Per Pupil, by use for Construction or Debt Service.

Basic Questions

Questions for which answers were sought in this research included the following:

1. School Building Debt. What is the relationship of school building debt to valuation of property? To presence or absence of state loan and/or state grant programs? To expenditures for current operation? To enrollment?

2. Debt Service Charges. How are those expenditures related to current expenditures? To Moody ratings? To state aid for construction/debt service? To the existence of state loan programs?

3. Effective Property Tax Rates for Debt Service. How do these relate to similarly-computed tax rates for all school purposes? Is the ratio relatively constant? Is the rate a function of other variables in addition to debt service costs and full valuation of property? Is the rate lower if state aid programs are present? What effect does Moody rating have?

4. Ratio of Debt Service Costs to Current Operations. Is this relationship relatively constant among different types of school systems and among states?

5. Capital Reserve Funds. To what extent are they used? If present, what are relationship with debt service and outstanding debt? What is the relationship to current operation? What is the effective tax rate level for such funds where used?

6. Debt Potential. Are existing limitations on indebtedness preventing districts from meeting capital needs? Have means been found to obtain borrowed funds in excess of such limits? How evenly do such limitations, existing debt, and debt potential impact districts within and among states? How do state loan or grant programs relate?

7. State Grant Programs. How widespread are they? What is the usage of typical grant programs?

What are the consequences on tax rates, extent of debt, debt service costs, and debt limitations?

8. Moody Ratings. What school district fiscal factors are associated with the rating levels? What is the relationship to debt service charges? To effective property tax rates?

Assumptions, Limitations and Delimitations

Several assumptions relating to the data potential had to be made in order for this study to be feasible. First, the most comparable measure of local ability which could be obtained was full valuation of taxable property which was calculated by dividing assessed or taxable valuation by an assessment - market value ratio - and then placed on a per pupil basis. While property taxation is used very little to support schools in a few states, and others may weight property values with income to estimate ability, most local support for school construction does come from the property tax base. It is also acknowledged that assessment ratios may be rather gross estimates in some states and relatively precise in others. In spite of these limitations, ability comparisons on the basis of full valuation seems to be the best that is possible.

Debt service and other costs and debt outstanding are used as measures of burden and effort in this study. Effective tax rates, based on calculated full valuation of property, combine the measures of ability and burden.

It was also necessary to handle the data by the EDP processes so that missing items of data for a responding school district did not cause the entire response to be judged unusable. This procedure maximized the available data but did cause some distortions in the computations - such as dropping the enrollment of a district with no indebtedness from the calculation of per pupil debt and/or per pupil debt service costs. Thus data for many such variables pertain only to districts with positive responses on all factors used in the computations.

School districts selected to provide data for this study were picked to yield balance on the basis of fiscal capacity. Seventeen districts from each state comprised the sample, with poor, average, and wealthy districts selected - and no claim is made for representativeness of this sample. It is of interest, however, that the mean per pupil expenditure for all respondents was $1,151, which is quite close to the NEA estimate of $1,163 per pupil in ADM for 1974-75.[6]

Table 3 shows aggregate data for all responding districts. It can be seen that there are huge differences between the mean and median value of several of the variables. Apparently, some large districts were spending considerably more for both current operation and school building purposes,

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[6]National Education Association, Rankings of the States, 1975, The Association, Washington, D.C.

TABLE 3. AGGREGATE DATA FOR ALL RESPONDING DISTRICTS*

Variable	No. of Valid Cases	Mean Value	Median Value	Total
Enrollment	519	13,805	3,515	7,164,528
Current Expenditures (000)	491	$17,220	$3,660	$8,459,000
Debt Principal Payments (000)	471	870.3	165.4	409,900
Debt Interest Payments (000)	471	557.0	98.0	262,300
Total Debt Outstsnding (000)	468	11,720	2,551	5,485,000
Local Tax Receipts				
a. Debt Service (000)	448	1,980.6	257.5	887,300
b. Reserve Funds (000)	155	1,236.4	150.0	191,600
c. Operstion (000)	487	10,500	1,625	5,113,000
Per Pupil School Building Debt	468	784	597	--
Per Pupil Debt Service Costs	475	96	71	--
Per Pupil Current Expenditures	492	1,151	1,067	--
Per Pupil Reserve Fund Receipts	155	63	41	--
Per Pupil Operstion Receipts	487	553	422	--
Per Pupil Full Valuation	506	68,681	48,380	--
Per Pupil Debt Potentisl	500	1,557	873	--
Per Pupil Stste Grants for Buildings	146	127	38	--
Effective Tax Rates				
a. Debt Service	400	.002	.001	
b. Reserve Funds	155	.002	.001	
c. All School Purposes	493	.019	.010	
Ratios				
Debt Service to Current Expenditures	455	.084	.069	
ETR Debt Service to ETR All School Purposes	440	.190	.133	
ETR Reserve Funds to ETR All School Purposes	155	.114	.083	
Moody Rating (A1=5, A=4)	363	4.344	4.228	

had large amounts of per pupil debt, and, as will be shown later, did so with relative ease due to high per pupil full valuation of property.

Comparative Data for Responding States

Data for the responding school districts, by state, are presented in this section of the report. It should be noted that there are wide ranges on most of the variables, both within and among states. In addition, the procedures used in many cases dropped from the analysis districts not furnishing a given piece of information. Thus, the table showing debt per pupil does not contain those districts with no debt.

Averages shown in the tables in this section are not size-weighted. Since the sample does not purport to be representative in the statistical sense, and since many large districts were respondents, the decision was made to compute averages for this section by summing the computed values for each district and dividing by the number of districts involved.

School Building Debt

Table 4 shows School Building Debt Per Pupil. The mean for all 468 districts with school building debt was $784, median was $597, and standard deviation was $693.

Wide ranges are apparent. Alaska, Pennsylvania, Indiana, Minnesota, New York, Texas and Rhode Island responding districts all had average per pupil debt well above the mean. Low per pupil debt states included Alabama, Maine, North Dakota, Oklahoma, South Carolina, and South Dakota.

TABLE 4. SCHOOL BUILDING DEBT PER PUPIL, JUNE 30, 1975

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	413.20	576.05	1696.60	58.88
ALASKA	2260.96	815.54	3210.69	1291.87
ARIZONA	759.07	571.60	1810.71	100.58
ARKANSAS	667.17	338.32	1468.10	15.39
CALIFORNIA	777.37	518.48	1721.82	304.36
COLORADO	969.31	535.16	1830.69	216.22
CONNECTICUT	810.98	554.41	1397.80	223.41
DELAWARE	976.76	1557.76	5297.24	81.67
GEORGIA	662.14	909.29	3629.12	22.84
IDAHO	586.59	415.09	1488.95	11.32
ILLINOIS	897.57	769.34	1983.94	66.21
INDIANA	1182.46	954.65	3370.91	51.15
IOWA	644.71	451.45	1571.78	124.28
KANSAS	990.59	1081.22	3912.58	218.41
KENTUCKY	799.44	272.75	1198.30	392.68
LOUISIANA	837.15	513.88	1913.69	22.28
MAINE	252.41	185.55	543.33	18.69
MARYLAND	683.33	438.11	1535.25	94.87
MINNESOTA	1111.30	1377.09	2085.14	137.63
MISSISSIPPI	197.92	165.47	418.75	2.04
MISSOURI	646.36	542.76	1834.65	199.66
MONTANA	500.25	371.09	1084.87	23.90
NEBRASKA	869.97	754.94	2498.23	1.77
NEVADA	768.41	527.12	1446.68	220.91
N HAMPSHIRE	868.63	422.67	1571.37	144.21
N MEXICO	368.92	248.25	1059.61	65.18
NEW YORK	1195.11	555.64	2186.03	464.90
N DAKOTA	465.41	220.11	810.26	70.65
OHIO	710.18	402.61	1368.42	62.67
OKLAHOMA	338.39	221.50	633.33	77.19
OREGON	623.12	692.27	2213.37	218.85
PENNSYLVANIA	2277.80	1084.54	4674.66	960.85
RHODE ISLAND	1025.52	592.59	2374.88	269.00
S CAROLINA	377.92	269.11	744.84	1.63
S DAKOTA	349.78	225.00	814.43	37.29
TEXAS	1163.26	816.43	3286.71	295.38
UTAH	733.89	585.64	2648.68	92.57
VERMONT	882.57	767.22	2158.66	26.32
VIRGINIA	819.11	542.50	1919.96	104.31
W VIRGINIA	631.46	324.84	1222.31	156.15
WISCONSIN	695.29	325.84	1293.14	87.09
WYOMING	837.76	857.87	2503.27	3.11

Highest calculated amount was for a Delaware district with $5,297. In addition to the low of $1.63 for a South Carolina district, it must be remembered that 51 districts of the 519 respondents reported no debt.

Tables 5 and 6 show per pupil school building debt in a different way. Responding districts were divided into groups on the basis of low, medium and high full valuation per pupil. For each group a median value was determined by counting in the situation where there was an odd number of cases or by calculating a median if there was an even number of cases.

TABLE 5. MEDIAN VALUE OF PER PUPIL SCHOOL BUILDING DEBT FOR STATES WITH CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	$ 94	$ 121	$ 330
Alaska	1576	968	3108
Connecticut	347	1398	576
Delaware	314	558	689
Georgia	291	187	1263
Illinois	514	66	990
Indiana	883	1272	1865
Kentucky	893	689	717
Maine	257	220	243
Maryland	291	619	708
Mississippi	145	82	209
New Hampshire	894	1090	802
New Mexico	321	427	600
New York	781	1470	1304
Pennsylvania	2506	2047	1755
Rhode Island	1271	883	604
South Carolina	29	258	544
Utah	556	575	937
Vermont	338	1082	810

Table 5, for states with operating capital outlay or debt service grant programs in 1971-72 and 1975-76, again supports the notion that wealthier districts are able to support more debt, or have better access to facilities, than lower wealth districts. In 13 of the 19 states, high wealth districts had higher median values for per pupil debt than did medium wealth districts and in 11 of the 19 states, medium wealth district debt was greater than for low wealth districts.

TABLE 6. MEDIAN VALUE OF PER PUPIL SCHOOL BUILDING DEBT FOR STATES WITH NO CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	$ 195	$1478	$ 599
Arkansas	396	746	855
California	620	344	1610
Colorado	288	1169	1079
Idaho	758	379	1101
Iowa	374	904	829
Kansas	454	833	469
Louisiana	1033	390	976
Minnesota	NA	NA	69
Missouri	603	327	1071
Montana	445	563	294
Nebraska	1176	335	1352
Nevada	1066	1147	241
North Dakota	293	577	424
Ohio	300	744	985
Oklahoma	257	355	467
Oregon	258	397	130
South Dakota	226	294	305
Texas	514	1282	1178
Virginia	391	717	1145
West Virginia	323	710	207
Wisconsin	531	96	900
Wyoming	846	245	1630

Table 6 is for states with no grant program operating in both 1971-72 and 1975-76. In 12 of 22 states for which adequate data were available, high wealth districts had higher median values for per pupil debt than medium wealth districts, and medium wealth districts had higher per pupil debt than low wealth districts for 14 of the 22 states.

For the two groups of states, only for Louisiana, Kentucky, Maine, Pennsylvania and Rhode Island were median values of per pupil debt highest for low wealth districts than for the other two district categories.

While no statistically valid conclusions can be drawn from data presented in this manner, it does seem apparent that ability to undertake higher per pupil debt means that higher debt may result.

Debt Service Costs

Table 7 shows debt service charges per pupil for 1974-75. Of the 519 respondents, 475 reported that payments of principal and interest were made. Again, data in the table pertain only to those districts with debt service payments - consequently, the minimum really is zero. For the 475 districts, mean value was $96, median was $71, and standard deviation was $120.

States with averages of more than $125 were Alaska, Delaware, Louisiana, New Hampshire, New York, Pennsylvania, and Virginia. States with averages under $60 included Alabama, Georgia, Idaho, Maine, Mississippi, South Carolina,

TABLE 7. DEBT SERVICE CHARGES PER PUPIL, 1974-1975 SCHOOL YEAR

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	49.38	38.16	97.35	13.69
ALASKA	309.43	275.03	775.96	100.48
ARIZONA	71.41	49.67	178.61	16.99
ARKANSAS	67.66	29.58	114.22	7.98
CALIFORNIA	117.49	131.53	488.36	28.54
COLORADO	121.55	51.99	216.22	51.20
CONNECTICUT	115.56	31.83	142.72	70.12
DELAWARE	128.79	67.36	258.53	29.76
GEORGIA	51.05	49.79	146.78	4.00
IDAHO	54.82	21.71	89.29	13.45
ILLINOIS	103.99	37.70	153.32	42.38
INDIANA	83.91	63.57	217.49	11.64
IOWA	81.87	52.63	231.90	29.93
KANSAS	120.63	155.31	603.41	41.32
KENTUCKY	61.85	18.39	93.83	37.61
LOUISIANA	149.81	190.92	742.90	23.57
MAINE	52.30	44.56	149.69	7.16
MARYLAND	75.80	61.49	234.67	4.74
MINNESOTA	96.30	57.25	182.13	3.31
MISSISSIPPI	45.96	18.86	71.62	15.45
MISSOURI	63.09	39.20	137.15	6.89
MONTANA	87.52	129.49	420.51	1.14
NEBRASKA	87.13	85.72	354.19	14.62
NEVADA	116.22	54.90	186.79	45.66
N HAMPSHIRE	128.73	81.19	390.62	35.60
N MEXICO	72.60	51.36	203.79	15.39
NEW YORK	139.19	42.87	189.83	59.97
N DAKOTA	65.95	26.72	112.99	22.73
OHIO	90.87	50.36	177.52	19.86
OKLAHOMA	73.54	28.80	100.77	40.34
OREGON	86.44	84.99	294.78	41.55
PENNSYLVANIA	144.36	50.47	209.62	72.49
RHODE ISLAND	109.83	47.73	243.31	42.70
S CAROLINA	51.57	37.65	133.48	2.50
S DAKOTA	60.43	34.33	139.26	19.86
TEXAS	218.40	453.86	1908.54	30.78
UTAH	79.25	33.32	139.59	32.15
VERMONT	92.30	68.75	214.53	22.56
VIRGINIA	149.30	236.61	848.87	28.39
W VIRGINIA	43.26	16.94	68.43	22.98
WISCONSIN	101.66	47.55	191.60	29.11
WYOMING	102.91	84.03	257.45	1.33

and West Virginia. The reported maximum was for one Texas district with payments of $1909 per pupil.

It should be recognized that some distortions of these data could come about because of an unusual occurrence such as retirement of bonds in advance of scheduled final maturity.

The wide range from state to state, and within states, probably reflects the influence of many factors. Costs of construction, prevailing interest rates at time of bond sales, absence or presence of state loan or grant programs, and sheer need to provide facilities are among the factors.

Tables 8 and 9 show median values of per pupil debt service charges by three classifications on district wealth. Table 8 is for states with operative grant programs in 1971-72 and 1975-76; for 15 of 19 states, the median value of the variable was greater for medium wealth districts than for low wealth districts. For high wealth districts, the median value of per pupil debt service was greater in ten states than for medium wealth districts.

Also noteworthy in Table 8 data is that there were no instances where the median value of per pupil debt service charges was higher for the low wealth category than for the high wealth group. For seven states, the value of the variable was greater for the high wealth group than for the medium wealth group, while the value for the medium wealth group was greater than for the low wealth group.

TABLE 8. MEDIAN VALUE OF PER PUPIL DEBT SERVICE COSTS FOR STATES WITH CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	$ 15	$ 17	$ 29
Alaska	144	74	555
Connecticut	94	131	72
Delaware	113	130	141
Georgia	33	23	126
Illinois	82	99	92
Indiana	60	104	97
Kentucky	53	56	75
Maine	50	52	29
Maryland	31	59	62
Mississippi	55	34	55
New Hampshire	114	89	127
New Mexico	43	62	105
New York	92	161	160
Pennsylvania	130	171	162
Rhode Island	99	133	83
South Carolina	7	49	69
Utah	66	80	57
Vermont	57	77	132

Table 9 gives the data for states with no grant programs. For these 23 states, 13 showed greater median per pupil debt service for medium wealth districts compared to the low wealth group. In 15 of the states, high wealth districts had more debt service costs than the medium wealth groups. In two states, Idaho and South Dakota, low wealth districts had higher median values for the variable than did medium or high wealth groups. For eight of the 23 states, the value for the high group was greater than for the medium wealth category and the medium group values were greater than for the low wealth group - a clear pattern of disequalization of burden and effort.

TABLE 9. MEDIAN VALUE OF PER PUPIL DEBT SERVICE COSTS FOR STATES WITH NO CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	$ 17	$ 72	$ 75
Arkansas	47	79	104
California	76	59	141
Colorado	79	104	167
Idaho	68	54	54
Iowa	48	93	74
Kansas	63	84	62
Louisiana	111	111	87
Minnesota	61	57	136
Missouri	41	44	123
Montana	42	7	66
Nebraska	35	48	118
Nevada	88	130	116
North Dakota	46	78	52
Ohio	43	66	117
Oklahoma	73	68	87
Oregon	44	21	54
South Dakota	54	48	39
Texas	62	129	114
Virginia	47	77	138
West Virginia	28	27	50
Wisconsin	77	96	134
Wyoming	52	50	178

Effective Tax Rates for Debt Service

Table 10 shows Effective Property Tax Rates for Debt Service. This variable was calculated by dividing assessed valuation of property by reported or published ratios of assessed valuations to sales or market value or property - this procedure yielded full valuation of property. Payments of debt principal and interest were then divided by calculated full valuation to yield the effective tax rate.

TABLE 10. EFFECTIVE PROPERTY TAX RATES FOR DEBT SERVICE, 1974-1975 SCHOOL YEAR

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	.0008	.0006	.0015	.0001
ALASKA	.0034	.0024	.0068	.0014
ARIZONA	.0017	.0004	.0021	.0009
ARKANSAS	.0042	.0015	.0069	.0012
CALIFORNIA	.0013	.0013	.0050	.0005
COLORADO	.0019	.0008	.0035	.0008
CONNECTICUT	.0031	.0010	.0042	.0025
DELAWARE	.0022	.0011	.0039	.0007
GEORGIA	.0005	.0004	.0013	.0001
IDAHO	.0010	.0005	.0019	.0000
ILLINOIS	.0016	.0008	.0028	.0007
INDIANA	.0016	.0010	.0029	.0001
IOWA	.0018	.0009	.0036	.0007
KANSAS	.0011	.0006	.0022	.0004
KENTUCKY	.0007	.0005	.0015	.0000
LOUISIANA	.0022	.0012	.0045	.0005
MAINE	.0008	.0005	.0011	.0004
MARYLAND	.0010	.0005	.0021	.0006
MINNESOTA	.0041	.0035	.0126	.0000
MISSISSIPPI	.0008	.0008	.0023	.0001
MISSOURI	.0013	.0006	.0026	.0006
MONTANA	.0006	.0003	.0011	.0001
NEBRASKA	.0024	.0017	.0062	.0004
NEVADA	.0012	.0010	.0027	.0002
N HAMPSHIRE	.0040	.0041	.0165	.0007
N MEXICO	.0025	.0021	.0090	.0000
EW YORK	.0023	.0018	.0049	.0007
DAKOTA	.0027	.0013	.0049	.0000
HIO	.0012	.0008	.0025	.0003
KLAHOMA	.0019	.0011	.0033	.0009
REGON	.0010	.0005	.0022	.0006
ENNSYLVANIA	.0040	.0010	.0047	.0023
HODE ISLAND	.0014	.0004	.0021	.0004
CAROLINA	.0129	.0382	.1217	.0001
DAKOTA	.0032	.0069	.0230	.0006
TEXAS	.0023	.0010	.0042	.0007
TAH	.0013	.0009	.0032	.0003
ERMONT	.0204	.0381	.1015	.0003
IRGINIA	.0013	.0008	.0031	.0004
VIRGINIA	.0014	.0007	.0025	.0005
ISCONSIN	.0019	.0008	.0039	.0003
OMING	.0012	.0007	.0027	.0000

Table 11 shows median values for Effective Tax Rate for Debt Service for states with capital outlay grants. For nine of the 17 states for which complete data were available, the value of this variable was greater for low wealth districts than for medium wealth districts. For 13 of the 17 states, the median effective tax rate was higher for medium wealth districts than for high wealth districts. These data suggest that tax burden is higher for lower wealth districts than for the other two groups and that the presence of state aid is not solving the equalization problem.

TABLE 11. MEDIAN VALUE OF EFFECTIVE TAX RATE FOR DEBT SERVICE FOR STATES WITH CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	.0015	.0004	.0004
Alaska	.0051	NA	.0017
Connecticut	.0013	.0042	.0013
Delaware	.0033	.0015	.0015
Georgia	.0003	.0002	.0010
Illinois	.0015	.0013	.0009
Indiana	.0015	.0025	.0012
Kentucky	.0012	.0005	.0003
Maine	NA	.0004	NA
Maryland	NA	.0011	.0007
Mississippi	.0003	.0007	.0005
New Hampshire	.0055	.0024	.0020
New Mexico	.0022	.0023	.0030
New York	.0028	.0011	.0007
Pennsylvania	.0023	.0046	.0040
Rhode Island	.0015	.0017	.0011
South Carolina	.0001	.0009	.0008
Utah	.0012	.0012	.0004
Vermont	.0690	.0006	.0003

The data in Table 11 also show that for only five of the 17 states was median Effective Tax Rate for Debt Service greater for high wealth districts than for low wealth districts. In five other states, the value was higher for low wealth districts than for medium wealth districts and also greater for medium wealth districts than for the high wealth group.

Table 12 presents similar data for the 23 states with no grant programs for debt service or capital outlay.

TABLE 12. MEDIAN VALUE OF EFFECTIVE TAX RATES FOR DEBT SERVICE FOR STATES WITH NO CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	.0009	.0014	.0017
Arkansas	.0040	.0048	.0047
California	.0016	.0006	.0820
Colorado	.0021	.0024	.0011
Idaho	.0014	.0008	.0010
Iowa	.0015	.0022	.0009
Kansas	.0016	.0012	.0006
Louisiana	.0027	.0014	.0013
Minnesota	.0019	.0036	.0029
Missouri	.0011	.0013	.0011
Montana	.0008	.0003	.0005
Nebraska	.0046	.0015	.0024
Nevada	.0027	.0013	.0003
North Dakota	.0037	.0031	.0010
Ohio	.0005	.0012	.0017
Oklahoma	.0028	.0004	.0010
Oregon	.0010	.0007	.0008
South Dakota	.0010	.0010	.0009
Texas	.0022	.0027	.0014
Virginia	.0017	.0005	.0012
West Virginia	.0016	.0009	.0005
Wisconsin	.0019	.0020	.0019
Wyoming	.0014	.0009	.0010

For 14 of the states, median ETRDS was higher for low wealth districts than for the medium wealth group. For 12 states, the value of ETRDS was greater for medium wealth districts than for high wealth districts.

In only five of the 23 states was the median value higher for high wealth districts than for the low wealth group. There were six states which had higher values for the low wealth group than the medium wealth group and also greater values for the medium group than for the high wealth group.

It appears that the data for Effective Property Tax Rate for Debt Service confirm the impression that equalization of tax burden for school facility purposes is far from being achieved in either group of states.

Ratio of Debt Service to Current Expenditures

Table 13 shows the relationship of debt service payments to current expenditures. For the 455 districts for which this ratio could be computed, the mean value was .0840, median was .069, and standard deviation was .0735.

Several states had average ratios of .06, and West Virginia's .05 was lowest. Highest ratio was .17 for Louisiana, with Alaska, Texas, and New Hampshire also with high ratios. Highest ratio for a reporting district was in Texas, where debt service was 49 percent of current expenditures.

Tables 14 and 15 group the ratios according to school district wealth. Data in Table 14 show that for seven of the

TABLE 13. RATIO OF DEBT SERVICE PAYMENTS PER PUPIL TO CURRENT EXPENDITURES PER PUPIL, 1974-1975 SCHOOL YEAR

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	.07	.05	.14	.02
ALASKA	.15	.14	.39	.03
ARIZONA	.06	.04	.13	.02
ARKANSAS	.10	.04	.16	.01
CALIFORNIA	.11	.14	.52	.03
COLORADO	.10	.04	.18	.04
CONNECTICUT	.10	.02	.11	.07
DELAWARE	.12	.07	.22	.02
GEORGIA	.06	.06	.19	.00
IDAHO	.06	.02	.09	.01
ILLINOIS	.07	.02	.10	.03
INDIANA	.09	.06	.21	.01
IOWA	.07	.04	.18	.03
KANSAS	.07	.03	.12	.03
KENTUCKY	.09	.03	.15	.04
LOUISIANA	.17	.25	.92	.03
MAINE	.06	.05	.16	.02
MARYLAND	.09	.13	.48	.00
MINNESOTA	.06	.04	.10	.00
MISSISSIPPI	.07	.03	.11	.02
MISSOURI	.06	.03	.12	.01
MONTANA	.07	.09	.30	.00
NEBRASKA	.09	.08	.31	.02
NEVADA	.09	.04	.15	.04
N HAMPSHIRE	.12	.09	.43	.03
N MEXICO	.07	.04	.14	.01
NEW YORK	.08	.02	.10	.07
N DAKOTA	.07	.03	.12	.02
OHIO	.07	.04	.14	.02
OKLAHOMA	.10	.04	.13	.05
OREGON	.05	.02	.09	.03
PENNSYLVANIA	.10	.03	.15	.05
RHODE ISLAND	.09	.04	.21	.03
S CAROLINA	.10	.09	.27	.00
S DAKOTA	.06	.04	.16	.02
TEXAS	.16	.13	.49	.04
UTAH	.06	.03	.12	.02
VERMONT	.07	.04	.16	.02
VIRGINIA	.06	.03	.10	.02
W VIRGINIA	.05	.01	.07	.03
WISCONSIN	.08	.03	.14	.03
WYOMING	.08	.05	.19	.00

19 states, low wealth districts had a higher ratio of debt service payments to current expenditures than did medium wealth districts while in nine of the 19 states the ratio was larger for medium wealth districts than for high wealth districts.

TABLE 14. MEDIAN VALUE OF RATIO OF DEBT SERVICE PAYMENTS TO CURRENT EXPENDITURES FOR STATES WITH CAPITAL OUTLAY/ DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	.022	.026	.079
Alaska	.064	.035	.277
Connecticut	.092	.105	.057
Delaware	.125	.120	.035
Georgia	.043	.031	.123
Illinois	.067	.042	.054
Indiana	.077	.111	.090
Kentucky	.066	.096	.103
Maine	.052	.050	.051
Maryland	.019	.066	.055
Mississippi	.064	.051	.083
New Hampshire	.139	.105	.114
New Mexico	.031	.055	.061
New York	.034	.096	.067
Pennsylvania	.115	.115	.087
Rhode Island	.084	.107	.071
South Carolina	.014	.122	.093
Utah	.063	.074	.037
Vermont	.037	.052	.110

Data in Table 14 also show that the ratio was larger for the low wealth district group than for the other two groups in five states while the ratio was greater for the high wealth group than the two other groups in seven states. No consistent pattern appears to develop across all granting states.

Table 15 presents similar data for the 23 states with no grant programs. For six states, low wealth districts had a higher ratio than the medium wealth group. There were also six states where the value was greater for medium wealth districts than for the high wealth groups.

TABLE 15. MEDIAN VALUE OF RATIO OF DEBT SERVICE PAYMENTS TO CURRENT EXPENDITURES FOR STATES WITH NO CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	.019	NA	.068
Arkansas	.089	.103	.144
California	.071	.048	.072
Colorado	.071	.096	.105
Idaho	.070	.059	.049
Iowa	.043	.040	.060
Kansas	.059	.068	.048
Louisiana	.109	.103	.067
Minnesota	.025	.041	.072
Missouri	.032	.054	.063
Montana	.036	.007	.053
Nebraska	.037	.052	.092
Nevada	.090	.118	.073
North Dakota	.047	.082	.048
Ohio	.041	.049	.104
Oklahoma	.064	.092	.101
Oregon	.033	.038	.042
South Dakota	.048	.049	.065
Texas	.040	.107	.192
Virginia	.043	.055	.034
West Virginia	.033	.053	.041
Wisconsin	.067	.075	.104
Wyoming	.088	.041	.085

In 15 of these 19 states, the high wealth group had a greater ratio than did low or medium wealth districts.

The data in Tables 14 and 15 suggest that the percentage of funds expended for debt service as compared to current expenditures is totally inconsistent among states and does not appear to be highly related to district wealth or to the presence or absence of state grants. The ratio is of course dependent upon the absolute values of spending for both debt service and current expenditures and neither may have sufficient stability within a state to allow for consistency of the ratio.

State Entitlements Per Pupil

Table 16 shows State Entitlements Per Pupil, calculated by dividing reported school building state grants by enrollment. Several states show very minor amount of grants and in many of these cases, existence of state grant programs was not reported in the state's 1976 program. California, Minnesota, Ohio, Texas, Virginia, Wisconsin, West Virginia, and Wyoming reported no grant programs in 1976, yet responding districts did report receipt of such funds in 1974-75.

Highest average for reporting states was for Maryland which has undertaken to provide nearly all school building funds from state sources.

TABLE 16. STATE ENTITLEMENTS PER PUPIL, 1974-1975 SCHOOL YEAR

	Average	Standard Deviation	Maximum	Minimum
Alabama	$215.89	$ 270.28	$ 407.01	$24.77
Alaska	117.42	92.35	203.40	19.80
Arizona	22.21	19.78	51.33	9.82
Arkansas	.04	.02	.06	.00
California	4.87	11.86	36.20	.00
Colorado	N.A.	N.A.	N.A.	N.A.
Connecticut	45.83	37.91	110.60	16.21
Delaware	187.47	164.27	431.85	76.36
Georgia	158.85	221.24	315.29	2.41
Idaho	N.A.	N.A.	N.A.	N.A.
Illinois	111.09	199.09	409.54	1.72
Indiana	43.29	29.92	135.58	15.69
Iowa	N.A.	N.A.	N.A.	N.A.
Kansas	N.A.	N.A.	N.A.	N.A.
Kentucky	64.95	13.11	79.44	21.34
Louisiana	N.A.	N.A.	N.A.	N.A.
Maine	50.87	49.41	149.69	6.85
Maryland	620.91	1352.06	804.37	.00
Minnesota	.03	.02	.07	.00
Mississippi	13.86	12.13	32.53	.00
Missouri	N.A.	N.A.	N.A.	N.A.
Montana	N.A.	N.A.	N.A.	N.A.
Nebraska	N.A.	N.A.	N.A.	N.A.
Nevada	N.A.	N.A.	N.A.	N.A.
New Hampshire	38.36	26.89	99.83	7.18
New Mexico	63.93	82.50	158.21	5.02
New York	78.41	3.83	82.71	75.34
North Dakota	.06	.03	.11	.01
Ohio	.04	.02	.06	.00
Oklahoma	N.A.	N.A.	N.A.	N.A.
Oregon	N.A.	N.A.	N.A.	N.A.
Pennsylvania	51.91	17.10	74.88	23.79
Rhode Island	35.07	32.07	134.29	3.74
South Carolina	56.68	44.92	132.80	16.18
South Dakota	N.A.	N.A.	N.A.	N.A.
Texas	3.25	N.A.	3.25	3.25
Utah	99.62	183.14	472.13	5.34
Vermont	17.32	11.94	38.05	3.80
Virginia	.02	.02	.05	.00
West Virginia	501.36	384.44	1292.88	64.40
Wisconsin	.04	.07	.28	.00
Wyoming	.04	.02	.08	.10

Table 17 shows median value of per pupil grants according to wealth categories for those states which had grant programs in 1971-72 and 1975-76.

TABLE 17. MEDIAN VALUE OF PER PUPIL STATE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	$ 0	$ 0	$ 0
Alaska	10	65	0
Connecticut	32	31	68
Delaware	38	0	0
Georgia	0	0	0
Illinois	1	0	0
Indiana	38	38	38
Kentucky	68	66	67
Maine	50	12	28
Maryland	138	27	382
Mississippi	24	15	0
New Hampshire	47	27	24
New Mexico	0	0	0
New York	42	38	0
Pennsylvania	44	52	58
Rhode Island	32	44	17
South Carolina	0	28	26
Utah	0	10	0
Vermont	11	18	4

No systematic relationship to district wealth status is apparent.

Tables 18 and 19 show usage of reported state grants as indicated by responding districts. Fourteen of the states report that 50 percent or more of the grant is used for debt service, while nine report that more than half goes for capital outlay.

TABLE 18. PERCENTAGE OF STATE ENTITLEMENTS FOR CAPITAL OUTLAY, 1974-1975 SCHOOL YEAR

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	.90	0	.90	.90
ALASKA	.56	.43	.90	.07
ARIZONA	.90	0	.90	.90
ARKANSAS	N.A.	N.A.	N.A.	N.A.
CALIFORNIA	.90	0	.90	.90
COLORADO	N.A.	N.A.	N.A.	N.A.
CONNECTICUT	.68	.38	.90	.02
DELAWARE	.29	.40	.90	.09
GEORGIA	.90	0	.90	.90
IDAHO	N.A.	N.A.	N.A.	N.A.
ILLINOIS	.09	0	.09	.09
INDIANA	.11	.07	.32	.09
IOWA	N.A.	N.A.	N.A.	N.A.
KANSAS	N.A.	N.A.	N.A.	N.A.
KENTUCKY	.32	.32	.96	.03
LOUISIANA	N.A.	N.A.	N.A.	N.A.
MAINE	.12	.08	.29	.09
MARYLAND	.71	.38	.99	.08
MINNESOTA	N.A.	N.A.	N.A.	N.A.
MISSISSIPPI	.90	0	.90	.90
MISSOURI	N.A.	N.A.	N.A.	N.A.
MONTANA	N.A.	N.A.	N.A.	N.A.
NEBRASKA	N.A.	N.A.	N.A.	N.A.
NEVADA	N.A.	N.A.	N.A.	N.A.
N HAMPSHIRE	.09	0	.09	.09
N MEXICO	.90	0	.90	.90
NEW YORK	.36	.47	.90	.09
N DAKOTA	N.A.	N.A.	N.A.	N.A.
OHIO	N.A.	N.A.	N.A.	N.A.
OKLAHOMA	N.A.	N.A.	N.A.	N.A.
OREGON	N.A.	N.A.	N.A.	N.A.
PENNSYLVANIA	.09	0	.09	.09
RHODE ISLAND	.09	0	.09	.09
S CAROLINA	.79	.31	.92	.09
S DAKOTA	N.A.	N.A.	N.A.	N.A.
TEXAS	.09	N.A.	.09	.09
UTAH	.90	0	.90	.90
VERMONT	.09	0	.09	.09
VIRGINIA	N.A.	N.A.	N.A.	N.A.
W VIRGINIA	.90	0	.90	.90
WISCONSIN	N.A.	N.A.	N.A.	N.A.
WYOMING	N.A.	N.A.	N.A.	N.A.

TABLE 19. PERCENTAGE OF STATE ENTITLEMENTS FOR DEBT SERVICE, 1974-1975 SCHOOL YEAR

	AVERAGE	STANDARD DEVIATION	MAXIMUM	MINIMUM
ALABAMA	N.A.	N.A.	N.A.	N.A.
ALASKA	.50	.28	.70	.30
ARIZONA	N.A.	N.A.	N.A.	N.A.
ARKANSAS	N.A.	N.A.	N.A.	N.A.
CALIFORNIA	N.A.	N.A.	N.A.	N.A.
COLORADO	N.A.	N.A.	N.A.	N.A.
CONNECTICUT	.30	N.A.	.30	.30
DELAWARE	.90	0	.90	.90
GEORGIA	N.A.	N.A.	N.A.	N.A.
IDAHO	N.A.	N.A.	N.A.	N.A.
ILLINOIS	.90	0	.90	.90
INDIANA	.88	.06	.90	.70
IOWA	N.A.	N.A.	N.A.	N.A.
KANSAS	N.A.	N.A.	N.A.	N.A.
KENTUCKY	.57	.25	.90	.10
LOUISIANA	N.A.	N.A.	N.A.	N.A.
MAINE	.89	.04	.90	.80
MARYLAND	.90	N.A.	.90	.90
MINNESOTA	N.A.	N.A.	N.A.	N.A.
MISSISSIPPI	N.A.	N.A.	N.A.	N.A.
MISSOURI	N.A.	N.A.	N.A.	N.A.
MONTANA	N.A.	N.A.	N.A.	N.A.
NEBRASKA	N.A.	N.A.	N.A.	N.A.
NEVADA	N.A.	N.A.	N.A.	N.A.
N HAMPSHIRE	.90	.00	.90	.90
N MEXICO	N.A.	N.A.	N.A.	N.A.
NEW YORK	.90	0	.90	.90
N DAKOTA	N.A.	N.A.	N.A.	N.A.
OHIO	N.A.	N.A.	N.A.	N.A.
OKLAHOMA	N.A.	N.A.	N.A.	N.A.
OREGON	N.A.	N.A.	N.A.	N.A.
PENNSYLVANIA	.90	0	.90	.90
RHODE ISLAND	.90	.00	.90	.90
S CAROLINA	.10	0	.10	.10
S DAKOTA	N.A.	N.A.	N.A.	N.A.
TEXAS	.90	N.A.	.90	.90
UTAH	N.A.	N.A.	N.A.	N.A.
VERMONT	.90	0	.90	.90
VIRGINIA	N.A.	N.A.	N.A.	N.A.
W VIRGINIA	N.A.	N.A.	N.A.	N.A.
WISCONSIN	N.A.	N.A.	N.A.	N.A.
WYOMING	N.A.	N.A.	N.A.	N.A.

Ratio of Effective Tax Rates for Debt Service to Effective Tax Rates for All School Purposes

Tables 20 and 21 show the relationships for each state for ETR for Debt Service compared to ETR for all school purposes. Included in all school purposes are necessary local revenues for current operation and for building reserve funds.

TABLE 20. MEDIAN VALUE OF RATIO OF EFFECTIVE TAX RATE FOR DEBT SERVICE TO EFFECTIVE TAX RATES FOR ALL SCHOOL PURPOSES FOR STATES WITH GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	.298	.154	NA
Alaska	.268	NA	.319
Connecticut	.056	.105	.072
Delaware	.346	.184	.152
Georgia	.062	.062	.130
Illinois	.135	.161	.132
Indiana	.065	.114	.117
Kentucky	.043	.105	.063
Maine	NA	.020	NA
Maryland	NA	.070	.046
Mississippi	.118	.069	.052
New Hampshire	.095	.058	.095
New Mexico	.283	.397	.517
New York	.093	.082	.056
Pennsylvania	.093	.220	.101
Rhode Island	.100	.087	.078
South Carolina	.029	.128	.189
Utah	.235	.219	.078
Vermont	.056	.067	.069

In seven of 16 grant states for which adequate data were available, low wealth districts had a higher ratio of debt service ETR to ETR for all school purposes than medium wealth districts. In ten of the 16 states, medium wealth districts had a larger ratio than high wealth districts.

Table 21 shows the data for states without grant programs. In 11 of the 22 states, the ratio was greater for low wealth districts than for the medium wealth category and also in 11 of the states the ratio was larger for medium wealth districts than for the high wealth category.

TABLE 21. MEDIAN VALUE OF EFFECTIVE TAX RATES FOR DEBT SERVICE TO EFFECTIVE TAX RATES FOR ALL SCHOOL PURPOSES FOR STATES WITH NO CAPITAL OUTLAY/DEBT SERVICE GRANTS

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	.128	.374	.194
Arkansas	.609	.669	.617
California	.166	.067	.082
Colorado	.143	.149	.103
Idaho	.203	.111	.207
Iowa	.102	.124	.143
Kansas	.097	.145	.080
Louisiana	.314	.346	.331
Minnesota	.090	.186	.138
Missouri	.057	.112	.081
Montana	.100	.057	.097
Nebraska	.182	.074	.141
Nevada	NA	.576	.055
North Dakota	.207	.190	.136
Ohio	.052	.089	.132
Oklahoma	.129	.072	NA
Oregon	.069	.062	.075
South Dakota	.076	.048	.319
Texas	.213	.277	.188
Virginia	.108	.044	.102
West Virginia	.170	.148	.061
Wisconsin	.136	.140	.123
Wyoming	.133	.079	.094

The data in these two tables do not point toward any apparent relationship between wealth and the ratio of effort exerted for debt service as a part of total tax effort. State

aid for current operation, presence or absence of reserve funds, and the level of effort for debt service are factors which may be operative in differing directions and thus may prevent any pattern to be obvious.

Effective Tax Rates for Capital Reserve Funds

Tables 22 and 23 show median values, by district wealth groupings, for Effective Tax Rates for Capital Reserve Funds.

TABLE 22. MEDIAN VALUE OF EFFECTIVE PROPERTY TAX RATES FOR CAPITAL RESERVE FUNDS FOR STATES WITH GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	NA	.0003	NA
Alaska	NA	.0016	.0018
Connecticut	NA	NA	NA
Delaware	NA	NA	NA
Georgia	NA	NA	NA
Illinois	NA	NA	NA
Indiana	.0038	.0016	.0019
Kentucky	NA	.0007	NA
Maine	NA	NA	NA
Maryland	NA	NA	.0001
Mississippi	.0002	.0001	NA
New Hampshire	NA	NA	NA
New Mexico	NA	NA	NA
New York	NA	NA	NA
Pennsylvania	NA	NA	NA
Rhode Island	NA	NA	NA
South Carolina	NA	NA	NA
Utah	.0007	.0006	.0010
Vermont	.0159	NA	NA

TABLE 23. MEDIAN VALUE OF EFFECTIVE PROPERTY TAX RATES FOR CAPITAL RESERVE FUNDS FOR STATES WITH NO GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	NA	NA	.0011
Arkansas	NA	NA	NA
California	NA	NA	NA
Colorado	.0011	.0011	.0008
Idaho	.0014	.0005	NA
Iowa	.0007	.0006	.0004
Kansas	.0004	NA	.0001
Louisiana	NA	NA	NA
Minnesota	NA	NA	NA
Missouri	NA	NA	NA
Montana	NA	NA	NA
Nebraska	.0014	.0014	.0014
Nevada	NA	NA	NA
North Dakota	.0020	.0017	NA
Ohio	NA	NA	NA
Oklahoma	.0008	.0004	NA
Oregon	NA	NA	NA
South Dakota	NA	NA	.0018
Texas	NA	NA	NA
Virginia	NA	NA	NA
West Virginia	NA	NA	NA
Wisconsin	NA	NA	NA
Wyoming	NA	NA	NA

The symbol "NA" is used to denote both lack of existence of such programs as well as to indicate situations where a calculated median value would be totally irrelevant - such as when three of the districts in a wealth category did not collect such funds but two others in the category did. It can be seen that this method of financing is not extremely popular, since the data show that only 17 of the 42 states in the population utilized such rates to the extent that meaningful data were available.

Per Pupil Debt Potential

Tables 24 and 25 show median value of per pupil debt potential by wealth categories. This variable was calculated by deducting existing per pupil debt from legally possible per pupil debt. In several cases, districts already had outstanding debt which was greater than the stipulated legal maximum amount - this was usually accomplished by state loans, debt incurred by another governmental unit for the benefit of the school district, or by leases with public authorities or lease-purchase agreements with private agencies. Such negative balances are indicated by parentheses bracketing the amount.

TABLE 24. MEDIAN VALUES OF PER PUPIL DEBT POTENTIAL FOR STATES WITH GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	$(896)	$(121)	$(329)
Alaska	860	2247	4138
Connecticut	(347)	(1397)	(1152)
Delaware	536	1862	3906
Georgia	1194	1930	1429
Illinois	1554	2177	1712
Indiana	(774)	(1135)	(1590)
Kentucky	(893)	(688)	(908)
Maine	2483	5455	3310
Maryland	541	(257)	(562)
Mississippi	567	896	2234
New Hampshire	1553	2379	2627
New Mexico	54	145	1263
New York	1207	(255)	(1304)
Pennsylvania	(2507)	(127)	(1734)
Rhode Island	(666)	(143)	192
South Carolina	142	192	333
Utah	330	311	2223
Vermont	(338)	153	1332

TABLE 25. MEDIAN VALUES OF PER PUPIL DEBT POTENTIAL FOR STATES WITH NO GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	$ 854	$ 345	$1880
Arkansas	47	279	704
California	393	1449	2160
Colorado	1496	1331	4338
Idaho	526	1477	1006
Iowa	97	(228)	1
Kansas	121	(113)	803
Louisiana	97	1264	2152
Minnesota	NA	NA	(1111)
Missouri	167	851	1095
Montana	1486	1633	5175
Nebraska	(276)	1420	1580
Nevada	873	3412	6170
North Dakota	34	(171)	625
Ohio	1777	908	1895
Oklahoma	264	355	767
Oregon	3878	4787	6067
South Dakota	519	1431	1788
Texas	712	1868	2384
Virginia	798	4835	4135
West Virginia	243	1053	1244
Wisconsin	3276	4365	6451
Wyoming	205	1008	2172

For the 19 states with grant programs, 14 showed higher debt potential median values for medium wealth districts than for low wealth districts. For the non-granting states, comparable figures were 16 of 22. Comparison of the high wealth to medium wealth categories showed that for ten of the 19 grant states, median values were greater for the high wealth group. For the non-granting states, the comparable figures were 20 of 22.

Moody Ratings and District Wealth Categories

Tables 26 and 27 show median Moody ratings according to district wealth categories. The rating scheme utilized was NR for no rating, then Ba, Baa, Baa-1, A, A-1, AA, and AAA, in ascending order.

Reasons for no rating vary. In many cases, lack of a recent trip to the bond market is the cause. In other cases, failure to acquire a rating may be due to small issue size, fear of a low rating if application is made, or custom and tradition. In the analysis below, NR was treated as a lower rating than Baa for the sake of convenience.

TABLE 26. MEDIAN MOODY RATINGS FOR DISTRICTS IN STATES WITH GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Alabama	NR	NR	Baa-1
Alaska	NR	NR	NR
Connecticut	A	A	NR
Delaware	A	A	A
Georgia	Baa	NR	Baa-1
Illinois	Baa-1	A	A-1
Indiana	NR	Baa	A
Kentucky	NR	NR	Baa
Maine	A	NR	A-1
Maryland	A	A-1	AA
Mississippi	NR	NR	NR
New Hampshire	A	A	A-1
New Mexico	A	A	A
New York	A	Baa	A-1
Pennsylvania	A	Baa	A
Rhode Island	A	A-1	A
South Carolina	NR	A	A
Utah	A-1	A-1	A-1
Vermont	NR	NR	A

For states with grant programs, five had lower Moody ratings for the low wealth district category than for the medium wealth group. The high wealth group, in 11 of 19 states, had higher Moody ratings than the medium wealth group. In several states (Delaware, New Mexico, and Utah), the median assigned rating was identical for all wealth categories. Only for Illinois and Maryland were ratings progressively higher in accordance with wealth categories.

TABLE 27. MEDIAN MOODY RATINGS IN STATES WITH NO GRANTS FOR CAPITAL OUTLAY/DEBT SERVICE

State	Low Wealth Districts	Medium Wealth Districts	High Wealth Districts
Arizona	Baa-1	A	A-1
Arkansas	NR	NR	NR
California	Baa-1	A-1	A
Colorado	A	NR	A
Idaho	A	A	NR
Iowa	AA	A	A
Kansas	A-1	A-1	A
Louisiana	Baa-1	Baa-1	A
Minnesota	Baa-1	Baa	AA
Missouri	NR	A	AA
Montana	NR	NR	NR
Nebraska	NR	A-1	A
Nevada	A	A	NR
North Dakota	A	A	A
Ohio	NR	A	A
Oklahoma	NR	NR	A-1
Oregon	A	A	A-1
South Dakota	A	A-1	A
Texas	Baa	A	A-1
Virginia	NR	A-1	AA
West Virginia	NR	A	NR
Wisconsin	A	A	AA
Wyoming	A-1	A	A-1

For the 23 states without grant programs, the number with higher ratings from the medium wealth district category compared to low wealth category was nine. For 11 of the states, the rating was higher for the high wealth category than for the medium wealth category.

For the non-granting states, 18 of the 23 high wealth categories had A or better median ratings. Of the 19 granting states, 13 of the high wealth groups had A ratings or better.

Summary of Individual State Data

These general observations can be made from the data on individual states:

1. The amount of per pupil debt is not consistently related to district wealth status, but high and medium wealth districts tend to have higher per pupil debt than poorer districts. Amount of debt is probably more related to ability to incur debt than to sheer need for facilities. Inspection of the data does not reveal a tendency for grant states to differ markedly from non-grant states in per pupil debt.

2. Per pupil debt service costs also tended to be higher as district wealth increased and this pattern was similar for both groups of states - those with grant programs for debt service or capital outlay and those with no grant programs. It is likely that ability to service debt, rather than need for debt service, is the major determinant of the magnitude of this variable.

3. Effective tax rates for debt service appear to be inversely related to district wealth status for both groups of states. The anti-equalizing nature of the methods of financing facilities become evident when this trend is accompanied by the trends for higher wealth districts to have greater debt service costs.

4. No regular relationship exists among states with respect to the ratio of debt service costs to current expenditures. The variable also does not appear to be consistently related to district wealth status.

5. The ratio of Effective Tax Rate for Debt Service to Effective Tax Rate for All School Purposes did not appear to be related to existence of a state grant program for capital outlay or debt service. No consistent relationship to district wealth status was apparent from the data.

6. Data were sketchy on utilization of capital reserve funds. Such funds are not used in several states and in others there was not adequate utilization to permit meaningful analysis.

7. As expected, higher wealth districts had higher per pupil debt potential. Many districts had already incurred debt in excess of prescribed legal maximum amounts, probably via state loans, leases with authorities, by utilizing bonding power of other governmental units, and perhaps other means.

8. Higher Moody ratings tended to be awarded to high wealth districts than to those with low or medium wealth. No

apparent differences of consequence were observed between the two groups of states.

Analysis of Combined Data for All Responding Districts

Several analytical procedures were used to ascertain relevant relationships among the variables. Included were correlations, differences in values for variables based upon division of the districts into two discrete groups, and multiple regression. Recognizing the limitations of measures of correlations, in that causation is not necessarily determined by the coefficient and the known interrelatedness of many of the variables, some interesting observations can still be made.

Total enrollment of the district was strongly correlated in a positive direction with expenditures for current operation, debt principal, interest, total debt, local tax receipts, assessed valuation, and full valuation of property. Other statistically significant, but not strong, positive relationships with total enrollment were Moody rating and per pupil reserve fund receipts. Total current expenditures had almost identical relationships as total enrollment with each of the other variables, as would be expected.

The interesting correlations among such computed variables as those based on burden or effort, per pupil, effective tax rates, the ratios, Moody ratings, and state participation led to further analyses. These are presented next.

Per Pupil School Building Debt. For 468 districts where debt was present, its mean value was $784, median was

$597 and standard deviation was $693. In addition, 52 districts reported no school building debt.

Relevant correlations with per pupil debt were:

Variable	N	Pearson r	Significance Level
Per Pupil Debt Service Costs	462	.4400	.001
Per Pupil Local Reserve Fund Tax Receipts	148	.3225	.001
Per Pupil Current Expenditures	449	.3143	.001
Per Pupil Local Operation Tax Receipts	447	.1539	.001
Per Pupil Debt Potential	468	-.1021	.014

Several expected significant correlations did not materialize. Effective Tax Rate for Debt Service, Full Valuation Per Pupil, and presence or absence of State Loan Programs were not highly correlated with per pupil debt.

Except for Per Pupil Debt Service Costs, none of the correlations was exceptionally strong. Current expenditures, reserve fund tax receipts, and tax receipts for operations do indicate willingness and/or necessity to raise funds, and it may be that districts with propensity to spend for other school purposes are inclined also to assume debt for facilities. It is also possible that districts needing to incur debt also need to use reserve funds to satisfy school building needs.

When the districts were divided into two discrete groups on the bases of mean or median values of several variables, some different relationships with per pupil debt emerged. These are shown in the table below.

Variable Used to Divide into Two Groups	Per Pupil School Building Debt				Probability
	Group 1 Mean	S.D.	Group 2 Mean	S.D.	
Median District Enrollment	$ 810	$673	757	$714	.411
Median Total Current Expenditures	858	756	710	620	.023
Median Full Valuation Per Pupil	843	694	738	695	.104
Mean Full Valuation Per Pupil	1000	804	738	657	.005
Moody Rating (A)	841	692	946	714	.356
Existence of State Loan Program	733	575	800	728	.308
State Grant Received	891	781	736	646	.036
State Grant Used for Debt Service	1001	838	999	783	.991

Per pupil debt was greater in districts with larger enrollment, but not significantly. The standard deviation for both groups indicates the wide range in the necessity and/or the willingness to incur debt.

Districts spending above the median had much higher per pupil debt load than those below the median, and the probability level of a real difference between the mean values was quite high.

When the relationship of full valuation per pupil was considered, findings were quite different when groups were divided on the median or mean value. Districts with above median ability had only slightly more per pupil debt than those below. Division into groups on the basis of mean full valuation per pupil showed that high ability districts had substantially more per pupil debt load ($1000 vs. $738). Apparently a small number of low enrollment and high ability districts also had incurred a large amount of debt. (Mean full valuation per pupil = $68,681; median = $48,880)

Moody rating mean value was 4.344 with A = 4 and A1 = 5. Districts with rating of A or better had per pupil debt of $841 while districts with a Moody rating of less than A had per pupil debt of $946. This finding is in keeping with stated criteria of the rating agency.

Where a state loan program was in existence per pupil debt tended to be less than where such programs were absent. Explanation for such a finding is difficult unless state loan programs tend to exist where debt limitations are extremely restrictive.

Where a state grant was received, debt per pupil was substantially higher than for states where such programs were absent.

The third statistical technique used was multiple regression. This technique was used to eliminate the effects of the correlations among the independent variables and to as-

certain any unique relationships, and the effect of each of the independent variables upon a dependent variable.

Per pupil school building debt was used as a dependent variable and per pupil reserve fund tax receipts, per pupil current expenditure, and enrollment were used as independent variables in a regression analysis. The first two variables were selected because of their relatively high correlations with per pupil debt. Enrollment was used because it and total expenditures, total debt, and total full valuation correlated so similarly with many of the other variables in the correlation matrix. Consequently, it was decided to use enrollment as an independent variable in all of the regressions.

The results of the analysis using per pupil school building debt as the dependent variable were:

Independent Variable	Multiple R	R^2	Change in R^2	Significance of Each Variable
Per Pupil Current Expenditure	.343	.118	.118	.000
Per Pupil Reserve Fund Receipts	.387	.149	.032	.022
Enrollment	.391	.153	.003	.504

These variables did little to account for per pupil debt. The coefficient of determination, R^2, for all three variables is only .153, or 15.3 percent of the variance in school building debt is accounted for by the three independent variables.

The conclusions that must be drawn about per pupil debt is that it is somewhat random in nature. Its amount more nearly relates to effort made for other school purposes than to any other variable. The t-tests for differences in groups did suggest that higher per pupil valuations were associated with higher per pupil debt and that districts receiving state grants tended to have higher per pupil debt.

Per Pupil Debt Service Costs. This variable represents one of the major descriptors of burden or effort. For the 475 districts responding on questions relative to debt service costs, mean value per pupil was $96, median value was $71, and standard deviation was $120. Forty-four responding districts reported no debt service costs.

Correlation coefficients greater than .15 and with significance levels of .05 or less for relevant variables with per pupil debt service costs are:

Variable	N	Pearson r	Significance Level
Per Pupil Current Expenditure	455	.6935	.001
Ratio Debt Service Costs to Current Expenditures	455	.5827	.001
Per Pupil School Building Debt	462	.4400	.001
Per Pupil Reserve Fund Receipts	148	.3211	.001
Ratio Local Reserve Fund Receipts to Local Receipts for All Purposes	144	.2326	.003
Per Pupil Local Receipts for Operation	453	.1884	.001
State Grant Used for Debt Service	97	-.1866	.034

Per pupil current expenditures, per pupil local tax reserve fund receipts, and per pupil local tax receipts for

operation, along with per pupil school building debt, all seem to be measures of burden or effort. The conclusion that might be drawn is that districts inclined to spend for current operation are also inclined to acquire more debt per pupil and, consequently, have higher debt service costs per pupil. The correlations with the two ratios are to be expected since per pupil debt service costs and reserve fund receipts were numerators of the fractions used to calculate the ratios.

While not an exceptionally strong relationship, the direction of the relationship for districts using most of the state grant for debt service purposes is not as expected. Debt service costs are comprised of principal and interest payments on bonds, lease-rentals, and repayment of state loans. Presumption that state aid for debt service might increase propensity to incur those expenses is not illogical.

Full valuation per pupil, receipt of state grants, and existence of state loan programs had only extremely weak correlations with per pupil debt service expenditures.

Division of the districts into discrete groups and evaluation of differences in group means revealed some other relationships.

Variable Used to Divide into Two Groupa	Per Pupil Debt Service Costs				Probability
	Group 1		Group 2		
	Mean	S.D.	Mean	S.D.	
Mean Full Valuation Per Pupil	$127	$113	$ 89	$122	.005
Median Full Valuation Per Pupil	112	155	82	72	.008
Median Total Current Expenditurea	108	151	80	60	.008
Moody Rating (above and below "A")	107	138	90	53	.130
Median District Enrollment	102	145	89	86	.252
Existence of State Loan Programs	89	86	98	129	.369
State Grant Used for Debt Service	105	61	127	184	.652
Receipt of State Grant	94	82	96	133	.841

Whether based upon median or mean full valuation per pupil, above average ability districts tended to have significantly more debt service per pupil than those with less than average wealth. A strong positive relationship between current expenditures and per pupil debt service expenditures also is obvious. Evidence that debt load and consequent debt service are really functions of ability and willingness to spend for schools keeps recurring in the data of this study.

Districts with Moody rating of "A" or above had higher debt service costs per pupil even though debt per pupil was less. This contradiction might be explained by the inclination of fiscally weak school districts, which would tend to be rated on the lower end of the rating scale, to spread out

repayment of debt over longer time frames than more able or willing districts which might pursue more aggressive debt retirement schedules.

Districts with larger than median enrollments had slightly higher mean debt service charges, but the difference was not strongly significant. State grant programs and state loan programs also failed to be strongly related to differences in debt service payments.

Multiple regression analysis using per pupil debt service costs as the dependent variable with six independent variables yielded the following results:

Independent Variable	Multiple R	R^2	Change in R^2	Significance of Each Variable
Full Valuation Per Pupil	.642	.412	.412	.001
Per Pupil Current Expenditure	.771	.595	.183	.009
Per Pupil Operation Receipts	.855	.731	.136	.007
State Grant for Debt Service	.902	.814	.083	.013
Per Pupil Reserve Fund Receipts	.938	.880	.066	.009
Enrollment of District	.938	.881	.000	.848

R^2 shows that these variables accounted for 88 percent of the variance in the dependent variable.

Full valuation per pupil "explained" 41 percent of the variance in per pupil debt service changes. Three measures of effort, per pupil current expenditure, operation receipts, and reserve fund receipts, accounted for 18.3, 13.6, and 6.6

percent of the variance. Utilization of state grants for debt service accounted for the other 8.3 percent of the variance explained by this analysis. District enrollment, which was used in all the regression analyses, did not add to the predictability of the equation.

Effective Property Tax Rates for Debt Service. This factor combines burden/effort for local debt service receipts and ability as measured by full valuation per pupil. Mean value of this variable is .0025 (or .25 percent of full value of taxable property), median is .001, and standard deviation is .0078.

Relevant and significant correlations with ETRDS were:

Variable	N	Pearson r	Significance Level
Debt Service Tax Receipts	440	.6882	.001
Effective Tax Rate for All School Purposes	440	.6879	.001
Effective Tax Rate for Reserve Funds	144	.6364	.001
State Grant Used for Debt Service	82	-.1778	.055
Per Pupil Debt Potential	428	-.0671	.083

The strong correlations with the first two variables are to be expected since debt service tax receipts is the numerator in the fraction of effective tax rate for debt service and the ETRDS is a large part of the ETR for All School Purposes. Effective Tax Rate for Reserve Funds, also strongly correlated with ETRDS, is another measure combining burden or effort and ability for school building purposes and the level of the relationship supports the notion that districts

needing facilities will utilize all possible means to raise necessary funds.

Where state grants were used for debt service, the negative relationship with ETRDS indicates that their intended purpose of supplanting local effort was being achieved at least in part. The weak negative relationship with per pupil debt potential indicates that districts exerting high effort as related to ability have diminished potential for getting more school building debt.

Division of responding districts into two groups and application of t-tests for significance of differences in group means provided some further findings.

Variable Used to Divide into Two Groups	Effective Tax Rate for Debt Service				Probability
	Group 1		Group 2		
	Mean	S.D.	Mean	S.D.	
Mean Full Valuation Per Pupil	.0011	.001	.0028	.009	.000
Median Full Valuation Per Pupil	.0014	.002	.0035	.011	.003
Receipt of State Grant	.0039	.014	.0019	.002	.123
Moody Rating ("A")	.0028	.010	.0022	.010	.377
Existence of State Loan	.0022	.002	.0026	.009	.481
Uae of State Grant for Debt Service	.0042	.013	.0098	.032	.527
Median District Enrollment	.0023	.008	.0026	.009	.664
Total Current Expenditures	.0024	.008	.0026	.008	.746

The most interesting conclusion that can be drawn from the above data is that districts with higher full valuation per pupil have much lower effective tax rates for debt service - group (1) values are about 40 percent of group (2) values. This substantiates the general notion that equalization in the financing of school facilities is not being achieved.

State grants for school building purposes did not do much equalizing since those districts receiving grants had effective tax rates for debt service two times greater than those which had no state grant. Existence of state loan programs had no relationship to ETRDS. When the bulk of any state grant was used for debt service, the effective tax rate was less than half of the rate for districts not using such grants for that purpose, but the difference was not statistically significant.

Differences between the groups divided on the other variables were trivial. Size of district was not a factor in effective tax rate for debt service.

Ratio of Effective Tax Rates for Debt Service to Effective Tax Rates for All School Purposes. This ratio is sensitive to many factors including local ability, local effort or burden, and percentage of state support for current operation and for school building purposes. Mean value for this variable is .1904, standard deviation is .1957, and median is .133.

No relevant strong correlations were found with this variable, probably because it is sensitive to so many factors. Coefficient for debt service tax receipts was .18, for Moody rating was -.16, for state grant for construction was +.24, for state grant for debt service was -.24, for per pupil operation receipts was -.31, and for per pupil reserve fund receipts was -.15.

Dividing respondents into discrete groups and use of t-tests on differences in means yielded only one substantial difference - for use of state grants for debt service - and its probability level was only .179.

Relationship of Debt Service Payments Per Pupil to Current Expenditures. An early theory on state support for school building purposes held that there was a rather constant relationship between debt service and current expenditures. Values of the ratio showing this relationship are: mean = .084, standard deviation = .0735, and median = .069.

Correlation coefficients above .15 for variables with this ratio include per pupil debt service costs (.58), per capita school building debt (.39), debt principal (.17) and interest (.16). Use of state grants for debt service by 96 districts was associated with a decline in the ratio ($r = -.28$).

Division into two groups on bases of ability, burden and other factors yielded little information of consequence. As would be expected, high debt districts as a group did have higher ratios than low debt districts. The results of the t-tests were:

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Division into two groups on bases of ability, burden and other factors yielded little information of consequence. As would be expected, high debt districts as a group did have higher ratios than low debt districts. The results of the t-tests were:

Variable Used to Divide into Two Groups	Ratio of Debt Service to Current Expenditures				Probability
	Group 1 Mean	S.D.	Group 2 Mean	S.D.	
Median Total Debt of District	.1028	.091	.0667	.044	.000
Median Enrollment of District	.0908	.089	.0769	.052	.042
Receipt of State Grant	.0923	.069	.0804	.075	.100
Moody Rating ("A")	.0915	.085	.0807	.045	.184
State Grant Used for Debt Service	.0955	.057	.1333	.126	.257
Existence of State Loan	.0786	.055	.0860	.079	.263
Median Total Current Expenditures	.0868	.084	.0811	.061	.404
Mean Full Valuation Per Pupil	.0894	.063	.0836	.076	.465
Median Full Valuation Per Pupil	.0849	.067	.0845	.080	.950

Mean values for groups divided on the basis of median district enrollment also were significantly different in the statistical sense. The group receiving a state grant for school building purposes had a higher mean ratio than the group with no state grant. When the state grant was used for debt service, the ratio was substantially lower than for the groups not using the grant in that fashion; but the probability level was not high, perhaps due to the small number of districts involved.

Valuation per pupil had no apparent relationship to the ratio.

A multiple regression using the ratio as the dependent variable with per pupil debt, full valuation per pupil, grant used for debt service, and enrollment as independent variables yielded a coefficient of determination of only .21616 with only per pupil debt accounting for more than ten percent of the variance. According to the data of this study, the ratio is not strongly related to any of the variables except those which bear upon the numerator of the fraction - debt service.

Reserve Fund Receipts Per Pupil. Of the 519 school districts for which responses were received, only 155 collected reserve funds. Mean value for those districts was $63 per pupil, standard deviation was $92, and median was $41.

This variable was correlated at the .01 significance level or better with an extremely high number of other variables. Total enrollment, total current expenditures, total full valuation, total receipts for operation, total debt, total interest, and total principal payments all correlated at the .25 level or higher with reserve fund receipts per pupil. All of these relationships point toward greater utilization of reserve funds, based on collections per pupil, by the larger districts in the study.

Other significant correlations, based on per pupil, effective tax rates, the ratios, and other factors follow.

Variable	N	Pearson r	Significance Level
Ratio Reserve Fund Receipts to Current Expenditures	155	.9287	.001
Per Pupil Local Tax Receipts for Operation	151	.7095	.001
Receipt of State Grant	38	.5463	.001
Per Pupil Current Expenditures	151	.4998	.001
Effective Tax Rates for Reserve Funds	155	.4663	.001
Ratio ETRRF to ETRASP	155	.4532	.001
State Grant Used for Construction	20	-.4016	.040
Per Pupil School Building Debt	148	.3225	.001
Per Pupil Debt Service Charges	148	.3211	.001
Moody Rating	102	.1794	.036
Debt Potential Per Pupil	155	.1780	.013

Reserve Funds appear to be strongly related to the propensity of districts to spend for operation and to incur debt and make the attendent debt service payments.

The relationships to state grants are particularly interesting. Receipt of the grant is highly correlated with reserve fund receipts which suggests that districts getting state grants also need to make additional effort via the reserve fund method. But when the grant is used for construction, the relationship to reserve fund receipts is inverse. The small number of districts with reserve funds (155) that also receive state grants (38) makes any conclusions about the relationships extremely speculative.

T-tests on differences of means of arbitrarily divided groups were largely inconclusive. But when the groups were divided on the basis of mean or median Full Valuation Per Pupil, the high group in ability tended to raise significantly more reserve funds per pupil than the low group.

Variable Used to Divide into Two Groups	Reserve Fund Receipts Per Pupil				Probability
	Group 1 Mean	S.D.	Group 2 Mean	S.D.	
Median Full Valuation Per Pupil	$ 86	$125	$ 46	$ 51	.017
Mean Full Valuation Per Pupil	133	184	50	51	.033
Median Total Debt of District	75	117	50	55	.085
Median Total Current Expenditure	69	113	55	62	.328
Moody Rating ("A")	70	106	49	58	.352
Existence of State Loan Program	84	155	58	67	.366
Receipt of State Grant	73	155	60	59	.603
Median District Enrollment	66	112	59	64	.640

The first two variables above are direct reflections of ability and both debt and expenditures seem to be primarily functions of ability. Moody Rating may also be heavily influenced by fiscal capacity and what may be emerging is further confirmation that reserve funds are used by districts with the capacity and willingness to raise other kinds of school funds.

Effective Property Tax Rates for Reserve Funds. For the 155 districts with such funds, mean ETR was .0017, standard deviation was .0040, and median was .001. Several correlation coefficients in excess of .15 were present.

Variable	N	Pearson r.	Significance Level
Effective Tax Rate for All School Purposes	155	.6465	.001
Effective Tax Rate for Debt Service	144	.6364	.001
Per Pupil Current Expenditures	151	.4666	.001
Per Pupil Reserve Fund Receipts	155	.4663	.001
State Grant Used for Construction	20	-.4274	.030
Ratio ETRRF to ETRASP	155	.4143	.001
Ratio Reserve Fund Receipts to Current Expenditures	151	.3251	.110
Per Pupil Operation Receipts	151	.3118	.001

Reserve Fund Local Tax Receipts (.22) and Local Tax Receipts for Operation (.31) also correlated positively with ETR for reserve funds. Since reserve fund receipts are included in any variable dealing with all school purposes, strong relationships are expected. The strong relationship with ETR for debt service has been discussed previously, as was the tendency for districts with reserve funds to also exert more effort for operation.

The negative relationship with state grants used for construction, based only on 20 districts, points toward less need to make high effort for reserve funds if state grants are available.

Examination of the t-tests on group mean differences revealed only two relationships with high probability levels. Strongest of these was where the groups were split on the basis of median Full Valuation Per Pupil. In that case, the mean for the high group was .0011 and was nearly twice as much, .0021, for the low ability group. The trend was the

same when the division was made on the basis of mean Per Pupil Full Valuation, but the difference was less pronounced (High = .0013, Low = .0018) and the probability level was only .396.

The other relationship with a high probability coefficient occurred when the groups were split on the basis of use of most of the state grant received for debt service. In that instance, the group using the state grant in this manner had an extremely high effective tax rate (.0043) as compared to an ETR of .0008 for the group using most of the state grant for construction.

Ratio of Effective Property Tax Rates for Reserve Funds to Effective Tax Rates for All School Purposes. This ratio was computed for 155 districts. Mean value was .114, or ETR for reserve funds was 11.4 percent of ETR for all school purposes. Median value was .083, and standard deviation was .122.

Correlation coefficients of .15 or better with this ratio are shown below.

Variable	N	Pearson r	Significance Level
Per Pupil Reserve Fund Receipts	155	.4532	.001
ETR Reserve Funds	155	.4143	.001
Ratio Reserve Funds to Current Expenditures	151	.3975	.001
Per Pupil Current Expenditures	151	.3867	.001
Per Pupil School Building Debt	148	.2178	.004
Per Pupil Local Tax Receipts for Operation	151	-.1750	.016
Moody Rating ("A")	102	-.1735	.041

Each of the first five variables above is interrelated with the factors used to compute the ratio. The Moody rating relationship is too weak to ponder reasons for its direction.

Division of districts into groups revealed no differences in group means with a probability level of greater than .310 and only in one case, where one group had nine districts, was there any great apparent difference in means.

Relationship of Per Pupil Reserve Fund Receipts to Per Pupil Current Expenditures. The mean value for this variable was .0512 for 151 cases. Median was .039 and standard deviation was .0551. This variable was correlated at the .15 level or higher with 21 other variables. Only those which cannot be traced directly to reserve funds or current expenditures will be discussed here.

Variable	N	Pearson r	Significance Level
Receipt of State Grant	38	.5279	.001
State Grant Used for Construction	20	-.4510	.023
Total Debt of District	144	.4022	.001
Per Pupil School Building Debt	144	.2595	.001
Per Pupil Debt Service Charges	144	.2326	.003
Moody Rating ("A")	99	.1782	.039
Existence of State Loan Program	151	.1760	.015

Number of cases where reserve funds were collected and state grant was received was only 38; but for those, receipt of state grant was strongly related to the ratio. When the grant was used for construction, the relationship was inverse, perhaps indicating that presence of such grants mini-

mized the need to raise reserve funds thus influencing the ratio to be smaller. The other correlations reflect other effort or burden indicators.

Division into groups to test for differences in group means was not particularly productive for this variable. The only differences in group means with high probability coefficients were on the bases of median and mean Full Valuation Per Pupil. The ratio was substantially higher for the more able group indicating again that districts with more capacity make more effort to obtain school building funds by the reserve fund device.

Debt Potential Per Pupil. This variable was computed by multiplying assessed valuation by the appropriate percentage debt limit, subtracting existing debt, and dividing by enrollment. It is recognized that some states now relate debt limits to receipts or some other measure in lieu of property valuation. Mean value of this variable was $1557, standard deviation was $3,135, and median was $873. In states where limits are unduly restrictive, state loan programs or lease-rental arrangements are used to circumvent these restrictions. Thus, a given district may show a negative amount of debt potential.

Relevant correlations with debt potential include:

Variable	N	Pearson r	Significance Level
Receipt of State Grant	145	.8007	.001
Debt Limit	449	.3033	.001
Existence of State Loan	500	.2637	.001
Per Pupil Current Expenditure	474	.2009	.001
Per Pupil Operation Receipts	471	.1832	.001
Per Pupil Reserve Fund Receipts	155	.1780	.013

Presence of state grant programs, for recipient districts, was so strongly associated with amount of debt potential that one might conclude that need was being addressed by the grant programs in that raw capacity to borrow money was enhanced by the existence of grants. Existence of a state loan program also was correlated in the expected direction but the coefficient is comparatively weak.

Division into discrete groups for testing differences in group means gave findings related to state grants which were different than what would be expected from the correlations.

Variable Used to Divide into Two Groups	Per Pupil Debt Potential				Probability
	Group 1		Group 2		
	Median	S.D.	Median	S.D.	
Median Full Valuation Per Pupil	$2,523	$3,949	$ 591	$1,391	.000
Mean Full Valuation Per Pupil	3,479	4,188	1,071	2,569	.000
Receipt of State Grant	893	3,543	1,828	2,914	.005
Total Debt of District	1,104	3,001	1,738	3,081	.025
Median District Enrollment	1,394	2,947	1,723	3,314	.241
Exiatence of State Loan Program	1,863	4,197	1,461	2,716	.326
Total Current Expenditures	1,431	2,994	1,600	3,333	.563

High ability districts, as measured by mean or median Full Valuation Per Pupil, had substantially more debt potential than low ability districts. Since debt limitations are

related to ability measures, this is to be expected but the magnitude of the differences between means is surprising since it was previously shown that high ability districts had higher per pupil debt.

While the correlation between amount of state grants received with debt potential was very high, the group of districts with no state grants had about twice the amount of debt potential as the other group. Grants may be flowing to the needy districts, or grant programs may exist where debt restrictions are severe.

Multiple regression, using Per Pupil Debt Potential as the dependent variable, was not conclusive. Full Valuation Per Pupil accounted for 8.5 percent of the variance but Enrollment, State Grant, Per Pupil Current Expenditure, and Moody Rating together accounted for only 2.5 percent more.

Per Pupil State Entitlements. Mean value for 146 cases was $127, median was $38, and standard deviation was $426. Grants typically are based on some measure of approved project cost at the time a building is constructed or are uniform annual amounts per pupil. In this study, 98 of the districts used an average of 87 percent of the grant for debt service while the other 64 districts used 85 percent of their grants for construction.

Strong correlations with state grants per pupil were observed for debt potential per pupil (.8004) and Existence of State Loan Programs.

None of the t-tests for differences of group means achieved high probability levels. The relationships are as follows:

Variable Used to Divide into Two Groups	State Entitlements Per Pupil				Probability
	Group 1 Mean	Group 1 S.D.	Group 2 Mean	Group 2 S.D.	
Existence of State Loan Program	$324	$914	$ 79	$113	.160
Median Full Valuation Per Pupil	174	599	75	108	.185
Median Total District Debt	164	544	80	184	.191
Median Current Expenditures	157	574	92	182	.359
Median Total Enrollment	154	560	98	186	.404
Mean Full Valuation Per Pupil	108	137	124	452	.762

For those 20 districts that received a state grant in a state which also had a loan program, the amount of the per pupil grant was substantially higher than for districts in states with no loan program. Based on median Full Valuation Per Pupil, the grant was much higher for the more able districts but the reverse was true when the division of groups was based on mean full valuation. Districts with high total debt received higher per pupil grants than those with less than median debt, but the probability level is low for that relationship.

Moody Ratings. The interest rate to be paid on school building bonds is influenced greatly by the assigned Moody

rating. The rating scale used, from highest down, is Aaa, Aa, A1, A, Baa1, Baa, and Ba. No district in this study had a rating lower than Ba, and 363 of these districts were rated. The other districts may have chosen not to have their bonds rated, had no debt, or issued bonds in amounts too low for a rating to be assigned.

Impact of the rating on interest rates is shown by this excerpt from a Moody's publication.

Moody's Municipal Bond Yield Averages

					1976	
	Sept. 9	Sept. 2	Aug. 26	Aug. 19	High	Low
Composite	6.43	6.43	6.50	6.53	7.12	6.43
Aaa	5.40	5.42	5.49	5.52	6.25	5.40
Aa	5.92	5.93	6.00	6.02	6.70	5.92
A	7.00	7.00	7.06	7.12	7.67	7.00
Baa	7.38	7.38	7.44	7.47	7.89	7.38

Payment of interest at seven percent, rather than six percent, causes debt service to be about $150,000 more over 20 years on an issue of $1 million of serial bonds. The importance of the ratings is evident.

For the 363 districts with a rating, the mean was 4.34 with Aaa = 7, Aa = 6, A1 = 5, A = 4, Baa1 = 3, Baa = 2 and Ba = 1. Median was 4.23 and standard deviation was 1.23.

Fourteen variables were correlated with Moody rating at the .15 level or above, but the strongest correlation was

only .26. In this group were district enrollment, current expenditures, debt principal, interest, receipts for reserve funds and operation, state grants, full valuation, and the tax rate ratios. The only negative relationship was with use of state grants for construction (-.2539).

Critics of the rating service claim that ratings are assigned subjectively, while the rating agencies contend that a wide range of factors is considered in assignment of a rating. The correlations found in this study could be used to justify either position.

Tests for differences in group means based on division by below or above Moody Rating of A yielded the following data.

Mean Values of Groups Divided According to Moody Rating of A

Variable	Above "A" Group 1 Mean	Above "A" Group 1 S.D.	Below "A" Group 2 Mean	Below "A" Group 2 S.D.	Probability
Per Pupil Local Tax Receipts - Operation	$657	$749	$412	$281	.001
Full Valuation of Property	$123,650,000		$421,490,000		.008
Effective Tax Rate All School Purposes	.0219	.095	.0117	.008	.072
Ratio ETRDS to ETRASP	.1791	.179	.2329	.216	.109
Per Pupil Debt Service Costs	$107	$138	$ 90	$ 53	.130
Ratio DS to Current Expenditures	.0915	.085	.0807	.045	.184
Per Pupil Current Expenditures	$1214	$764	$1143	$332	.267
Ratio ETR Reserve to ETRASP	.1014	.074	.2123	.306	.310
Per Pupil Reserve Fund Local Tax Receipts	$ 70	$106	$ 49	$ 58	.352
Per Pupil School Building Debt	$841	$692	$945	$714	.356

Districts with ability and making effort much more often than not were found in the "A" and above group. Notable exceptions, but with a relatively low probability level, was per pupil debt where the "A" and above group had a lower mean value than the below "A" group.

Multiple regression analysis with Moody Rating as the dependent variable and state grant, full valuation per pupil, per pupil debt, enrollment, debt potential, and current expenditures brought out that only 14 percent of the variance was explained by these six independent variables.

Major Findings

In an earlier section of this report, several questions were posed. The data appear to support the following answers.

1. School Building Debt

   A. Districts with above average full valuation per pupil had higher per pupil debt than less able districts.

   B. The existence of a state loan program had no apparent relationship to the amount of debt per pupil.

   C. Per pupil debt was higher for districts receiving state grants for school building purposes than for districts not receiving such grants.

   D. Districts spending more for current operation purposes tended to have more school building debt per pupil.

   E. No apparent relationship existed between per pupil debt and enrollment of the district.

2. Debt Service Costs

   A. Per pupil debt service costs were highly correlated with per pupil current expenditures.

   B. High ability districts, as measured by full valuation per pupil, had higher debt service costs per pupil.

   C. District with Moody Ratings of "A" or above had higher per pupil debt service than districts with ratings of below "A."

   D. There were no strong statistical relationships between per pupil debt service costs and any of the variables relating to state loans or state grants.

3. Effective Property Tax Rates for Debt Service

   A. The correlation between ETRDS and similarly computed rate for all school purposes was .6879.

   B. The mean ratio of debt service payments to tax rates for all school purposes was about .19 with a standard deviation also of about .20. Some districts have no or very low debt service costs and the percentage of state aid for either school buildings or current operation drastically affects the ratio.

   C. Where state grants for debt service were made, the rate tended to be slightly lower.

   D. Full valuation per pupil was extremely important in determining the ETRDS.

   E. Moody Rating appeared to have no significant effect on ETRDS.

4. Ratio of Debt Service Costs to Current Operation

   A. Mean value of the ratio was .084 with standard deviation of .0735.

   B. Ratio among the states ranged from .05 for West Virginia to .17 for Louisiana.

   C. Total debt of the district and per pupil debt were the most influential variables affecting the ratio.

   D. Larger enrollment districts, as a group, tended to have higher ratios.

   E. Districts receiving state grants for buildings had higher ratios.

5. Capital Reserve Funds

   A. 155 of the 519 districts collected reserve funds. Mean per pupil collection was $63; median was $41.

   B. Amount collected was highly correlated with per pupil debt, per pupil local tax collections for

operation, per pupil expenditures, per pupil debt service charges, and receipt of state grant.

C. If the state grant was primarily for debt service, the relationship was inverse with reserve fund receipts per pupil.

D. High per pupil valuation and high total debt districts tended to have substantially higher per pupil collections than low ability districts.

E. Mean effective property tax rate for reserve funds was .0017, standard deviation was .0040, and median was .001. ETRRF was highly correlated with ETRDS and ETRASP. Where the bulk of the state grant was for construction, the ETRRF tended to be lower. Full valuation per pupil was highly related to the level of the rate.

6. Debt Potential

A. Many of the districts had negative debt potential per pupil indicating means had been found to circumvent arbitrary debt limitations.

B. Great variance between and among states exists in debt potential per pupil. Mean was $1,557, standard deviation was $3,135 and median was $873.

C. Amount of State Grants received was highly correlated with amount of debt potential for recipient districts. Existence of state loan programs also was positively related, but the relationship was not strong. On the other hand, districts with no state grants, as a group, had much higher mean debt potential than the group of districts not receiving state grants.

D. Districts grouped by high per pupil valuation had four times the debt potential as the below median full valuation group.

E. Smaller than median enrollment districts, as a group, had more debt potential than larger enrollment districts.

7. State Grants

   A. Of the 519 responding districts, 146 received state school building grants in 1974-75. Mean was $127, standard deviation was $426, and median was $38, on per pupil basis.

   B. Use of more than 70 percent of the grant for debt service was reported by 98 districts while 64 used more than 70 percent for construction.

   C. Districts receiving state grants tended to have higher full valuation per pupil than districts not receiving grants.

   D. Districts with grants tended to have higher total debt, higher total current expenditures, and higher enrollment.

8. Moody Ratings

   A. Of the 519 districts, 363 had been assigned ratings. Mean was 4.34 with A = 4 and A1 = 5. Median was 4.23; standard deviation was 1.23.

   B. 14 variables were correlated at the .15 level or above with Moody Rating, but the strongest correlation was .26.

   C. Districts with high ability, as measured by full valuation per pupil, and those making effort, as measured by local tax receipts for operation, per pupil debt service costs and other variables tended to have higher ratings.

   D. Districts with "A" or above ratings tended to have higher effective tax rates for debt service than districts with below "A" ratings.

Conclusions and Implications

This research was unable to provide definitive answers to some of the questions posed earlier in this report. Many of the factors relating to school construction finance simply are not systematically related to simple measures of need, burden or ability. Prior effort or lack thereof causes further distortions as does timing of construction projects and bond sales.

Ability. In the foregoing analyses of data for individual states and for the total group of respondent districts, the influence of Full Valuation Per Pupil, used as the ability measure in this study, kept appearing. Some of the relationships among groups of districts divided according to tax paying capacity should be illuminated further. The following table does this.

The three variables dealing with debt load show that richer districts have more debt per pupil, pay considerably more per year for debt service per pupil, yet have an effective tax rate for debt service only 40 percent of the Effective Tax Rate for Debt Service for poorer districts. Division of the groups on mean per pupil valuation results in similar, and even more pronounced, indication of the lack of equalization of debt service costs.

The variables dealing primarily with current operation show that richer districts spent 27 percent more per pupil,

TABLE 28. DIFFERENCES FOR MEANS OF SELECTED VARIABLES BETWEEN GROUPS DIVIDED ON BASIS OF MEDIAN FULL VALUATION PER PUPIL

Variable	Mean Value for High Group	Mean Value for Low Group	Probability
A. Debt Variables			
1. School Building Debt Per Pupil	$ 843	$ 738	.104
2. Debt Service Expenditures Per Pupil	112	82	.008
3. Effective Tax Rate for Debt Service	.0014	.0035	.003
B. Current Operation Variables			
1. Current Expenditures Per Pupil	$1287	$1013	.000
2. Local Tax Receipts - Operation	720	794	.000
3. Effective Tax Rate for All School Purposes	.0107	.0269	.024
C. Reserve Fund Variables			
1. Reserve Fund Receipts Per Pupil	$ 86	$ 46	.017
2. Effective Tax Rate for Reserve Funds	.0011	.0021	.070
D. Ratios			
1. Debt Service to Current Expenditures	.0849	.0845	.950
2. ETRDS to ETRASP	.1655	.2140	.009
3. ETRRF to ETRASP	.1180	.1108	.728
E. Other			
1. Debt Potential Per Pupil	$2523	$ 591	.000
2. State Grants	174	75	.185

had ten percent fewer local tax receipts for operation, yet had a total effective tax rate amounting to 40 percent of the rate for the poorer districts. To the extent that full valuation of property is a comparable indicator of ability for districts among states and effective tax rate is a good indicator of effort, equalization also is not being achieved in the current operation sector where all states have programs of assistance.

Reserve Funds were only used by about 150 of the districts responding in this study. Per pupil receipts were nearly twice as great for the mean of the above average ability group and the effective tax rate was half as much.

For the ratios examined in this study, only that of Effective Tax Rate for Debt Service to Effective Tax Rate for All School Purposes varied significantly according to ability. For the more able districts, the ratio indicated that about 16.6 percent of tax effort was for debt service while allocation of 21.4 percent was necessary for the less wealthy districts.

Debt potential per pupil for the high ability group districts was more than four times as great as for the low group. Thus, the more able districts had more existing debt per pupil, had higher debt service costs, had much more capacity to incur additional debt, but had an effective tax rate level for debt service of about 40 percent of the rate for poorer districts. Where reserve funds were used for

building, the anti-equalization tendencies were magnified still more.

The data in this study show that district ability is the factor determining capacity and burden for financing school construction. An effective system of state support for financing school building has been and will continue to be needed. State programs have not been particularly effective in providing equalization.

The figures for state grants indicate, for the districts involved in this study, that more state funds flowed to the more able districts. It is likely that a few districts receiving grants for the entire costs of projects influenced these figures. Most state grants are still made on a per pupil or instructional unit basis, typically at levels of less than $40 per pupil, and it would seem that a few sizable grants to more able districts could cause the apparent disparity between the groups.

Need Measures. Data in this study show that expenditures for school building purposes fall very unevenly across the school districts of a state. Debt service charges per pupil for the 42 states ranged from zero for 44 of the districts to as much as $1,908 per pupil for the highest district in the study.

Given that most of the school construction in the United States has been financed by borrowing, it seems logical that debt service costs per pupil is the best simple

measure of need. In states where significant grant programs have long existed, such as Delaware, there are still wide ranges in per pupil debt service costs. The residual between state grants for construction and the actual costs of projects are reflected in debt service costs.

Debt service costs per pupil are functions of enrollment, cost of project, interest rates, and length of term. Less able districts incur higher interest costs because of lower bond ratings and because average life of issues is usually inflated to keep annual costs manageable. Use of debt service as a need measure can therefore enable a grant system to be implemented which will consider such factors.

The use of reserve funds by a minority of school districts to finance part of construction costs complicates use of debt service as the measure. One hundred forty-four of the districts in this study had both debt service and reserve funds, and both could be construed as indicators of need. In states where reserve funds are permitted and used, it would appear logical to add collections per pupil over a reasonable period of time (perhaps five years) to debt service costs per pupil to use as the measure of need to ascertain necessity and desirability of state participation.

Since the necessity for financing school construction does not fall evenly over school districts, states not wanting to encourage local district borrowing as the major method of financing school construction should grant funds for approved

project costs, rather than on a per pupil or instructional unit basis for future projects. Objective standards should be used in determination of approved project costs. If it is deemed to be desirable policy to permit local districts to construct facilities in excess of those that the standards for approved project would dictate, then any additional costs should be borned entirely at the local level.

To summarize, the best simple measure of need, given the financing methods which have been and are prevalent, is debt service cost per pupil. This measure takes into consideration prior effort and fiscal strength of the district in the bond market. Permitting use of reserve funds should take into account collections for such funds in determination of the need measure, since use of savings can obviate requirement for district borrowings. If the state wishes to minimize local district borrowing as the primary method for financing buildings then state grants for construction of approved projects are appropriate with any costs beyond those approved being the sole responsibility of the local district.

Guidelines for a Feasible State Program. If equalization of capacity to finance school buildings and tax equity are to be achieved, then adoption of appropriate need measures and allocation procedures are necessary.

The need measure should recognize prior effort and current burden by using debt service costs as well as reserve fund collections. If the state desires to share in the fund-

ing of school buildings without sole reliance on local district borrowing to raise construction funds, then construction grants based on approved project costs should be made.

The allocation system should be devised so that all school systems are making uniform local effort for approved projects. Calculations could be made, on the basis of objective formula, to permit all or a substantial portion of debt service expenditures and reserve fund collections to be qualified as approved costs in which the state will share. The sharing ratio might well be identical to that used for the state-local program for current operation if that program does well on equalization.

The problem of assuring that all districts make uniform effort, even if no need exists in some districts, is not unlike that relating to recapture of locally-generated funds from wealthy districts for the state program for funding current operation. It may well be that the state should levy the calculated uniform local effort on the entire tax base of the state. Districts with no school building needs, as represented by either debt service or construction requirements, have in all likelihood been able to previously satisfy such needs from relatively high local tax-paying capacity or have not faced up to the fact that needs now exist. Such districts have either had unrealistically low burdens or will ultimately begin to qualify for state support.

Even in the event that requiring local effort from districts with no current or perceived need is not deemed to be reasonable, adoption of a state-local sharing mechanism for all other districts would be a gigantic step in the direction of fiscal neutrality.

Implicit in such a program is a high degree of state leadership in general planning for school facilities and particularly for approval of specific projects.

OMB #51-S75070
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APPENDIX A

QUESTIONNAIRE ON SCHOOL CONSTRUCTION FINANCING

The United State Office of Education has contracted with me to gather data on school construction financing from selected school districts. Your district has been selected as a sample district. Your cooperation in furnishing the data requested on this questionnaire is solicited and will contribute to increased understanding of the problems of financing school construction in the United States. Please return the completed questionnaire by January 10, 1976 in the enclosed envelope.

Data in which we are interested are those for public elementary and secondary schools. Data for junior and community colleges definitely should be excluded throughout the questionnaire.

If the material requested in the items below is available in (1) your budget report for the 1974-1975 school year, or (2) other published sources, you may forward a copy of the material as your response, if you prefer to do so.

1. Name of School District:

2. Total current expenditures for elementary-secondary schools during the 1974-75 school year. Please exclude those for junior colleges.

   $_____

3. Debt service payments made during the 1974-75 school year <u>for school building purposes</u> only.

   a. General obligations bonds

      (1) principal $_____

      (2) interest $_____

b. State loans or advances

(1) principal $_____

(2) interest $_____

c. State or local school building authorities*

(1) principal $_____

(2) interest $_____

(3) *_____

*If principal and interest amounts cannot be segregated easily, please furnish total paid in blank (3).

d. Other

(1) principal $_____

(2) interest $_____

4. Were any of the above types of obligation paid off in their entirety during 1974-75?

Yes_____

No_____

If yes, how much? $_____

Type of obligation _____

_____

5. Total debt of your district for <u>all school building purposes</u> (<u>principal amounts only</u>) as of June 30, 1975 for:

a. General obligation bonds $_____

b. Loans or advances from the state $_____

c. State or local school building authorities $_____

_____

d. Other $_____

6. Local tax receipts for school purposes in 1974-75:

   a. Debt service purposes $_____

   b. School building construction (reserve) funds $_____

   _____

   c. Current operation (General Fund) $_____

   d. All other school purposes $_____

7. Actual local assessed valuation of taxable property for the most recent year $_____

8. Estimated ratio of actual assessed valuation to "true valuation," "fair-market valuation," or "real valuation" of taxable property.
   _____per cent

9. Does any state agency make available an assessment ratio figure which relates assessed valuation to "true valuation," "fair-market valuation" or "real valuation" of taxable property? _____yes _____no

   If yes, what is that ratio for your district?_____

10. Are there legal limitations on the amount of school building debt your district can have? _____yes _____no

    If so, please list them.

    _____

    _____

    _____

    _____

    _____

11. If your district is subject to legal limitations on the dollar amount on bonded indebtedness for school building purposes, what is the maximum amount permissible? $_____

12. If there is no legal limitation on the amount of school building debt, is there a traditional or conventional limitation to which your district is subject?

    _____yes

    ___No

    If yes, what is this limit $_____

13. Please furnish the following information on your most recent bond issue.

    a. Date of sale _____

    b. Amount of issue _____

    c. Moody's or Standard & Poor's rating _____

    d. Net interest rate _____

14. Please give your planned budgeted expenditures for school construction in your district during the next three school years. (Please express in 1975 dollars.) Exclude outlays planned for maintenance and repairs.

    1975-76 $_____

    1976-77 $_____

    1977-78 $_____

15. How many instructional spaces (teacher stations or classrooms) would the above represent?

    1976_____

    1977_____

    1978_____

16. Describe the highest priority school construction projects which were excluded from the planned budgets reported in Q 14. List these projects in order of priority and the dollar amounts required for each.

17. State grants received for school construction and/or debt service during fiscal year 1974-75. $_____

18. What was the purpose of the above grant or grants?

    a. School construction $_____

    b. Debt Service $_____

    c. Total $_____

19. Is it permissible for state grants for school construction or debt service to be diverted to current operating expenses?

    _____Yes

    _____No

    If yes, did you allocate any state funds in that manner in 1974-75?

    _____Yes

    _____No

    If yes, please give the amount. $_____

20. State school construction loans received during school year 1974-75.

    Amount $_____

21. Other school construction loans received during school year 1974-75.

    Amount $ _____

    Please identify source _____

Thank you for your assistance; please return in the enclosed envelope to:

Dr. William R. Wilkerson
Educational Planning Associates
2964 Bankers Drive
Bloomington, Indiana 47401

APPENDIX B

Descriptions of State Grant Programs

The USOE publication detailing kinds of state support for public schools was the basis for the following capsule descriptions of the state aid programs operative in 1975-76. In addition to the states shown in Table 2 as granting funds, a description of Arizona's programs which operated in 1974-75 is given along with mention of Wisconsin's new Basic Support program which may include some state-sharing of capital and debt service costs.

Alabama

Alabama has long had a program of state grants for capital outlay and debt service as part of its foundation program. The amount distributed was $1,943,792 or $64.87 per teacher unit in 1975-76.

Alaska

Two grant programs for school construction existed in 1975-76. The first was $20 million for outright grants for school construction projects with no local matching share required. The other was for $8.8 million for debt service purposes. Both of the grant programs were in existence also in 1971-72, with amounts of $3.7 million for construction and $3 million for debt retirement.

Arizona

Arizona had initiated a grant program entitled Facilities Emergency Aid in 1974. In 1974-75, 24 districts participated; no appropriations for this purpose were made for the 1975-76 school year. No continuing program of aid to local districts for construction or debt service had been in existence prior to 1974.

Connecticut

A major grant program exists which pays 50 percent of "necessary costs" for construction and major alterations of elementary, secondary, administrative and service facilities and for all school sites. Higher percentages of "necessary costs" of regional K-12 or 7-12 facilities and for regional vocational-agricultural facilities are assumed by the state. The amount appropriated for those grants was $22.8 million in 1975-76, compared to $93.9 million in 1971-72.

Delaware

Delaware has long had grant programs for school construction. For many years, 60 percent of approved project costs was assumed by the state. In 1975-76, 60 percent of debt service associated with approved construction projects is paid by the state. In 1971-72, $14 million was appropriated for the state grants and $16.8 million was available in 1975-76.

In addition to this aid, $3.7 million was available for grants for school building maintenance and minor capital improvements. These funds are also granted on a 60-40 percent state-local basis.

Florida

Included in the state's foundation program for many years was a fixed amount per instructional unit ($400 in 1971-72) plus allowances for grants for enrollment growth. By 1975-76 these grants (now $600 per unit on the basis of units existing in 1967-68 and $800 per unit for those derived since 1967-68) had been supplemented by a $92 million program entitled Comprehensive School Construction and Debt Service. The new plan was intended to provide funds for school building purposes beyond that which would be raised by a ten mill ad valorem debt levy and the proceeds of the instructional unit flat grants.

Georgia

The Capital Outlay Fund makes construction and debt service grants to school systems demonstrating need and making required local effort. More than $33.7 million was available for such grants in 1975-76 compared to $27.2 million in 1971-72. A complex formula, relating to increase in average daily attendance, school consolidation, square footage cost allowances, and local effort is used to determine the amount of the grants.

Hawaii

Organized as a single school district, $64.9 million was appropriated for 1975-76 for capital purposes. Appropriation in 1971-72 was $47.2 million for capital purposes.

Illinois

This state moved from a very minor grant program (for special education facilities only) in 1971-72 to a significant grant program. Formerly, the Illinois School Building Commission made interest-free loans to needy school districts, but in 1975-76 the Illinois Capital Development Board made both construction and debt service grants to nearly 400 of the state's school districts - $362.2 million was appropriated for those purposes. The grants are equalizing in nature, ranging from .20-to-.70 times an index based on local district valuation.

Indiana

A flat grant of $40 per pupil for debt service has been made for many years to all districts in Indiana. Districts with no debt service may use the grant for current operation. Appropriated for the grants was $43 million in 1975-76.

Two state loan funds are also available for needy districts.

Kentucky

As part of the foundation program, Kentucky grants $1550 per classroom unit to all school districts which may be used for construction or debt service. Appropriated in 1975-76 was $50.4 million, up from $1,200 per classroom unit in 1971-72.

Maine

Maine's new program for financing schools uses a combination of state grants for 50 percent of most expenditures (including debt service) and a statewide property tax to raise the other 50 percent. Depending upon how one chooses to classify the local revenue part of this program, it could be regarded as total state support of most expenditures, including debt service.

Maine's previous program utilized an equalizing construction grant based upon approved project cost. State loans were also made via the State School Building Authority which constructed buildings and leased then to local school districts.

Maryland

Maryland has paid 100 percent of construction costs since 1971 and also pays debt service of local districts for all debt created prior to 1967. More than $92.4 million was appropriated for this purpose for 1975-76.

Massachusetts

Grants for approved projects are made with the state share varying from 50-to-65 percent according to per pupil wealth. The grant actually is made to local districts over a period of years, since local districts sell their bonds for the entire project cost and the state pays its share toward annual bond principal and interest costs. The amount of the appropriation for 1975-76 was $112.6 million, compared to $43 million for a similar program in 1971-72.

Michigan

Legislation in 1975 established a debt service grant for needy districts, with $14.6 million appropriated. Michigan also still has the School Bond Loan Fund, which provides for loans to stabilize local debt service rates, with $8 million available for this purpose in 1975-76 compared to $18.6 million in 1971-72.

Mississippi

A grant of $18 per pupil in ADA is made available for capital outlay and debt service. Districts may receive an advance of up to 75 percent of estimated entitlements for the next 20 years in a lump-sum if they desire. This program has been in existence since 1953, with $8.7 million appropriated in 1975-76 compared to $7.2 million in 1971-72 when the support level was $12 per pupil.

Missouri

Missouri has two very minor school building grant programs, both of which total under $1 million. Realistically, Missouri should be classed as a state with no support for capital outlay.

New Hampshire

Grants for bond principal payments are made by the state, with the amount dependent upon the organization status of the district and whether local reserve funds were used on the approved project which becomes the basis for the grant. $5.3 million was appropriated for this purpose in 1975-76 compared to $2 million in 1971-72.

New Jersey

Allocation of state funds for debt service and/or capital reserve funds is made via a Strayer-Haig equalization program. The amount appropriated for 1975-76 was $23 million compared to $29.7 million in 1971-72.

Another state program, Additional State School Building Aid, is used for debt service grants to needy districts. In 1975-76, $11.7 million was appropriated for this fund compared to $6.9 million in 1971-72.

New Mexico

A new program in New Mexico provides funds for school construction. Any district wishing to tax itself up to 2 mills receives a total of $35 per pupil per mill levied from the local levy and the state. Money can be used only for capital outlay - not debt service. Appropriated for 1975-76 was $13.2 million. Another program makes grants or loans to districts facing emergencies related to provision of school facilities.

New York

A construction grant program has operated in New York for many years. Differential grants are made for approved projects dependent upon grade levels to be housed. Appropriated for this purpose in 1975-76 was $226 million.

Pennsylvania

An equalizing grant for debt service program has existed for many years. The state aid ratio is the same as is used for current operation and $159.9 million was appropriated in 1975-76 compared to $95 million in 1971-72. Proceeds are to be used only for payment of debt service.

Rhode Island

A percentage equalizing grant for school construction is made for approved projects with the state share paid over a 20-year period. An allowance is also made for construction completed between 1949 and 1960. The appropriation for the program was $7.4 million in 1975-76 compared to $6.1 million in 1971-72.

South Carolina

The State School Building Fund is a grant program based on $30 per pupil enrolled. Funds may be used for construction, for debt service, or credited to the local district for future use. Advance draws against projected future entitlements are also made. Available for this program was $19.1 million in 1975-76 compared to $19.7 million in 1971-72.

Tennessee

A Strayer-Haig type of equalizing grant, based on an annual support level of $24 per pupil is used by recipient districts for school construction, debt services, and for transportation equipment. For the state as a whole, 57.5 percent of the support level is from state sources with the calculated balance raised locally. In 1975-76, $13.4 million was appropriated compared to $10.5 million in 1971-72.

Utah

Utah pays the excess costs of capital outlay and debt service that local districts cannot fund from the proceeds of a stipulated mill levy of at least 8 mills. The amount appropriated for these grants was $3.6 million in 1975-76 while appropriations for school construction/debt service grants in 1971-72 was $3.3 million.

Vermont

For approved projects, the School Building Construction Fund will pay 30 percent of construction costs and 20 percent of bond principal and interest payments on the state bonds issued to fund the program. For special education classrooms, the state will pay 75 percent of construction costs. Available for 1975-76 for the Fund was $1,250,000 for construction and $2 million for debt service. In 1971-72, reported as available for grants from the Fund was $6.8 million.

Washington

A variable grant program provides for 10-to-90 percent of approved project costs with the percentage varying inversely with district property valuation per pupil. Appropriated for this program was $61.5 million in 1975-76 compared to $21 million in 1971-72.

Wisconsin

As part of the Basic Support Program, debt service and current year capital outlay is included as "sharable non-operating" costs which the state and local districts share in funding via the guaranteed valuation mechanism. It is difficult to isolate an amount paid by the state for this program.

DECLINING ENROLLMENTS: A SURVEY OF THE STATES AND SELECTED SCHOOL DISTRICTS*

1. INTRODUCTION

1.0 General Background

The decline in public school enrollments has exacerbated many of the problems facing schools. Many new problems have been created by the need to reduce physical plant, teaching and administrative staff and other resources from levels of use in previous periods of growing or peak enrollments. Table 1 illustrates the changes in U.S. total enrollments from 1965 to 1975 and from 1975 to 1985 projections. These data show a change in the trend from one of increasing enrollments through the Sixties to one of decreasing enrollments through the mid-1980s.

To investigate the effects of this trend on local education agencies (LEAs) and state education agencies (SEAs), the Declining Enrollments Survey (DES)** was administered to all fifty SEAs and a select group of

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*The authors wish to acknowledge the help of Dr. Robert J. Goettel and Mr. Dana W. Paige who constructed and distributed the questionnaires for the Declining Enrollments Survey (DES). Since this paper was shaped by the data from the DES, much of the conceptual framework may be attributed to Dr. Goettel and Mr. Paige. Additionally, Dr. Goettel provided valuable comments on early versions and the authors were greatly influenced by the Goettel and Paige article, "A Report on Declining Enrollments," Volume II, Number 1 of The Imperative of Leadership series of the National Association of State Boards of Education. Mrs. Esther Tron of the U. S. Office of Education made a number of valuable criticisms and suggestions which were incorporated in the final text. Our colleagues here at the Research Center were, as usual, helpful and supportive. Of course, the authors claim sole responsibility for any errors in the text. Finally, but not least, Betty Johnson and Valerie Squibb deserve our thanks for typing and keeping things from disintegrating during numerous crises in this endeavor.

**A survey questionnaire is in the Technical Appendix which is available under separate cover.

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TABLE 1

FALL ENROLLMENT IN REGULAR ELEMENTARY AND SECONDARY DAY SCHOOLS (in thousands.)

Total	1965	1975	% Change 1965-1975	1985 Projected	% Change 1975-1985
K-12	48,473	50,138	3.4%	46,058	-8.1%
Elementary	31,570	29,592	-6.3	29,106	-1.6
Secondary	16,904	20,546	21.5	16,952	-17.5
Public					
K-12	42,173	44,838	6.3	40,758	-9.1
Elementary	26,670	25,692	-3.7	25,206	-1.9
Secondary	15,504	19,146	23.5	15,552	-18.8
Nonpublic					
K-12	6,300	5,300	-15.9	5,300	0

Note: Projections assume that the percentage of school age pupils enrolling in school will continue the trends of the past 10 years and that birth rates and retention rates will remain constant.

Source: U.S. Dept. of Health, Education and Welfare, Education Division, Projections of Education Statistics to 1985-86. (U.S. Government Printing Office, 1977).

500 LEAs. The LEAs chosen were those ten showing the largest declines in each state: five with the highest percentage declines, five with the highest absolute declines. In all, forty-five SEA and 256 LEA responses were included for analysis.

This paper reports on the results of the DES. The remainder of this chapter presents some additional background information. Chapter 2 and 3 deal with the results for SEAs and LEAs, respectively. Chapter 4 is a brief summary of the findings.

1.1 Nature of Declines

Table 2 provides more information on the annual changes in public schools by grade level. The data show continual growth in K-12 enrollments through the late 1960s followed by continual declines beginning in 1972. The declines in K-6 enrollments began in 1970, two years earlier. A precursor of these changes is the trend in grade 1 enrollments which showed declines beginning in the mid 1960s. Since not all districts have had kindergartens, kindergarten enrollments are not an accurate precursor of trends in higher grade levels. However, from 1973 through 1975 the opening of new kindergartens resulted in large increases in enrollments which have lessened the severity of K-12 and K-6 enrollment declines in terms of the national totals and also in those states and LEAs which could open or expand kindergarten.

Statewide enrollment declines and projections are presented on Table 3. Declines in K-8 enrollment occurred in all states except New Hampshire, Florida and Arizona. The severity of the declines varies considerably among states and, as explained in Section 3.1, there is considerable inter-district variation as well. Setting policies to compensate for this trend is complicated by the differences among the states and differences among districts within states.

TABLE 2

PERCENTAGE CHANGE IN ENROLLMENTS FROM PREVIOUS YEAR:
U.S. PUBLIC FULL-TIME ENROLLMENTS, 1964 THROUGH 1975

Year	Grades K-12	Grades K-6	Grades 7-12	Grade 1	Kindergarten
1975-76	-0.5%	-1.2%	.3%	2.3%	6.9%
1974-75	-0.8	-1.6	.1	-1.6	8.4
1973-74	-0.8	-2.3	1.0	-3.5	5.5
1972-73	-0.7	-2.0	.8	-5.6	0.8
1971-72	0.4	-1.6	2.9	-6.2	-3.0
1970-71	0.6	-0.5	2.0	-1.0	-1.6
1969-70	1.5	0.6	2.7	-1.4	2.9
1968-69	1.6	0.9	2.6	-1.8	6.0
1967-68	2.7	2.1	3.4	1.5	0.9
1966-67	2.5	1.5	3.7	-0.1	3.6
1965-66	1.3	1.7	.9	2.1	3.5

Source: Grant, W. Vance and Lind, C. George, Digest of Educational Statistics 1976 Edition, National Center for Education Statistics, 1977, Table 34, p. 38.

TABLE 3

Percentage Change In Enrollments in the Fifty States
Ranked By Percent K-8 Decline

(All percentages are negative unless otherwise noted.)

State	*% Change in Enrollments Between Fall 1971 and Fall 1975* K-8	K-12	*Projected Change Fall 1975 to Fall 1980* K-12
More than 10%			
Kansas	15.40%	11.40%	1.64%
North Dakota	13.89	8.59	NR*
South Dakota	10.73	7.42	4.80
Rhode Island	10.51	7.18	4.56
8-10%			
Iowa	9.63	5.66	14.50
Delaware	9.18	4.45	15.88
Illinois	9.08	4.27	10.52
Alabama	8.87	6.11	NR
Nebraska	8.52	4.92	5.14
Pennsylvania	8.49	4.62	15.25
Ohio	8.15	5.11	10.95
Minnesota	8.04	3.27	13.04
6-8%			
Hawaii	7.90	4.71	3.50
Indiana	7.82	4.37	6.77
Missouri	7.71	2.87	NA**
Maryland	7.69	3.80	6.80
Oklahoma	7.68	5.55	NA
New Mexico	7.64	1.73	6.16
Montana	7.40	4.19	5.16
Mississippi	7.20	3.84	NA
New York	7.06	3.07	11.86
Wisconsin	6.68	3.19	5.03
Connecticut	6.58	1.77	NR
Louisiana	6.31	2.47	NA
Kentucky	6.27	3.51	+ 1.01
California	6.23	4.51	8.17
4-6%			
Washington	5.90	3.23	NA
Michigan	5.30	4.15	NA

TABLE 3 CONTINUED

State	% Change in Enrollment Between Fall 1971 and Fall 1975 K-8	K-12	Projected Change Fall 1975 to Fall 1980 K-12
(4-6% continued)			
New Jersey	5.17	2.65	11.66
Tennessee	5.05	3.63	NR
South Carolina	4.66	4.10	2.39
Vermont	4.46	1.27	NA
Arkansas	4.29	2.22	7.96
2-4%			
Colorado	3.70	2.66	5.84
Maine	3.69	+ .64	NA
Virginia	2.85	+ .92	6.33
Wyoming	2.79	1.65	NA
Alaska	2.72	+ 1.91	+ 3.38
Utah	2.63	.57	6.28
Texas	2.56	1.76	NR
West Virginia	2.06	.58	7.57
0-2%			
Oregon	1.94	1.14	3.49
Massachusetts	1.92	+ .74	7.36
North Carolina	1.88	.62	3.74
Georgia	1.88	1.97	NA
Idaho	1.78	.47	NA
Nevada	.04	+ 4.46	NA
+			
New Hampshire	+ 1.17	+ 4.26	NA
Florida	+ 2.57	+ 4.42	+ 2.78
Arizona	+ 2.99	+ 3.98	+ 7.42

*NR = Survey not returned.
**NA = Data not available.

Source: 1971-75 Percentage changes are calculated from Table 27 (1972) and Table 26 (1975), Digest of Education Statistics, National Center for Education Statistics 1971 and 1975 editions, U.S. Dept. of Health, Education and Welfare, Education Division. The projected changes 1975-80 are obtained directly from state education agencies through a survey conducted for USOE by SRC.

Moreover, enrollment declines may be associated with a wide variety of school district types. The largest declines have occurred in the large city districts.* Older suburbs with little or no residential building and no influx of young families, are also areas of declining enrollments.** Declining enrollments are prevalent in areas of stagnant or decreasing economic opportunities. Many rural areas are in this category because of changes in the agricultural and mining sectors.

1.2 Effects on Costs and Revenues

With casual inspection, the suggestion that school districts are unable to reduce costs commensurate with enrollment declines seems paradoxical. A number of circumstances conspire to make this period of declining enrollments one of increasing monetary costs.

From a purely legal point of view, state mandated services, facilities and operating procedures may sharply constrain LEA options for cutting costs. The existance of labor contracts and the possibility of legal action further constrain the range of cost saving personnel policies regarding retirement, seniority, lay-offs, and similar matters.

There are several reasons why reductions in force may meet with community and teacher opposition. From a pedagogic point of view, there exists a bias in favor of reducing student-teacher ratios, and a time of declining enrollments provides an opportunity to do so. If declines

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*Robert Goettel and Dana Paige, "Declining Enrollments," Imperative of Leadership, Vol. II, No. 1, National Association of State Boards of Education, p. 5.

**For example, the older, inner ring suburban districts surrounding Boston are losing enrollments at the same time outer ring suburbs are growing. Katherine E. Eisenberger and William F. Keough, Declining Enrollments: What to Do. Arlington, Virginia: American Association of School Administrators, Executive Handbook Series, Vol. II, 1974, pp. 6-7.

in enrollments allow for such reductions and still provide an opportunity for decreasing the staff, a strong and politically active teacher association could still make dismissal of its members difficult.* If faculty reductions occur through attrition (retirements or teachers leaving jobs voluntarily) teacher associations and local district administrations can work cooperatively and avoid conflict.

The LEA survey results reported in section 3.3 show that two-thirds of LEAs found attrition alone was sufficient to eliminate surplus teaching positions. This may be an important factor in relations with teacher organizations; the majority of LEAs reported teacher organizations to be cooperative.

Even if fewer teachers are hired by the district, the total wage bill for teachers can still increase, and this, the wage bill, not the number of teachers, is the crucial aspect of cost. The seniority/salary step mechanism is one source of increasing cost of the total teacher wage bill. If the teaching staff is reduced through retirements, one would expect the wage bill of the district to decrease, other things being equal. However, if the district reduces staff through layoffs, because of seniority arrangements, teachers new to the district will be dismissed. These teachers will be those on the lower salary steps while the remaining teachers move up the salary ladder.**

With sufficient enrollment declines, a likely place to save on school expenditures is in the operation of buildings. However, closing

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*Betty E. Sinowitz and Charlotte Halam, "Fighting Reductions in Force," Today's Education, 64(2), March-April, 1975, pp. 32-34, 96.

**The existence of a seniority system and salary step increases are factors school districts must live with. The preceding paragraph was not meant as a criticism of these arrangements, merely as an explanation as to why it is so difficult to decrease the cost of education.

a building is not a simple procedure; it involves re-allocating students to other schools in the face of neighborhood pressure to keep the school open. Also, simply emptying the building will not go very far in reducing costs if the building or site cannot be turned to some other use. An empty building still requires minimal upkeep and maintenance. Further, savings from the closing may be partially offset by additional costs of busing students assigned to other schools.

Probably the worst culprit prohibiting school districts from reducing costs commensurate with reductions in the number of students is inflation. Even if the "real" cost of educating a student falls, the monetary cost can rise in times of high inflation. Since prices and the composition of expenditures differ substantially across geographic locations, there probably is no one price index suitable for deflating expenditures of all school districts.* This greatly complicates the analysis of costs since there is no widely applicable method for controlling for or isolating the effects of inflation.

Nevertheless, there are financial data which can be used to demonstrate changing cost conditions and to evaluate the relative fiscal pressures accompanying enrollment declines. For example, we computed per pupil expenditures and state aid for LEAs in the survey. On average, both

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*There have been case studies. For example, Edward M. Cupoli, William A. Peek and C. Kurt Zorn, An Analysis of the Effects of Inflation on Finance in Washington, D. C., 1972-1975, Metropolitan Studies, Syracuse, New York: Paper prepared for the D. C. Tax Revision Commission, June 1977. This study used published price indexes to create a local price index for the various governmental functions (including education) of the City of Washington. It was estimated that inflation increased the prices of purchases for education by 31 percent. At the same time, total money expenditures increased 20 percent and K-12 enrollments declined by 7 percent.

expenditures and aid were increasing from 1971 to 1975, with the increase in aid slightly greater than the increase in expenditures. However, the wide variation of changes in state aid indicates that in many districts aid has decreased as a proportion of total state and local revenue. (This is explained in greater detail in section 3.2).

State aid is a principal source of district revenue which may be greatly affected by declining enrollments. Aid which is distributed on the basis of some measure of pupils is certain to be reduced by declines in enrollments. Moreover, where the formula aid per pupil is inversely related to district wealth (tax base per pupil), a decrease in pupil count makes the district appear wealthier, and thereby reducing state aid.

1.3 Local Responses and Reactions

With declining enrollments and concurrent reductions in force, there may be some question as to the direction of change in pupil/teacher ratios.* A drop in state support could drive up pupil/teacher ratios. On the other hand, resistance from teacher organizations resulting in teachers being kept on may cause the pupil/teacher ratios to fall. As explained in section 3.3, there are reasons to expect reductions in force to lag behind enrollment trends. And the LEA survey results reported in section 3.3 show a clear decrease in the pupil/ teacher ratio.

There exist additional measures which local districts can take to compensate for enrollment declines. For example, if one assumes there is some level of student participation required for a course to be

*For example, Institute for Development of Educational Activities, Shrinking Schools, IDEA, Dayton, Ohio, 1975.

offered (or for a district to provide a 'specialist' in a field such as art or music), then reductions in the number of students could lessen the scope of the curriculum. In the declining enrollments survey, LEAs most often identified art, music and physical education as areas for cutbacks on the elementary level and foreign language on the secondary level.

1.4 State Responses

States can take a number of steps toward alleviating many of the adverse effects described in the previous subsections. An SEA survey of state responses to declining enrollments was conducted to inquire about SEA perceptions of the problem, SEA technical assistance to LEAs, and provisions of state aid formulas.

Since SEAs are familiar with the trends in migration and the socio-economic conditions underlying that migration, they are perhaps best able to project enrollments for their state and to identify types of districts most likely to experience declines. The findings reported in Section 2.1 show that the largest city was most often expected to lose enrollment.

States can adapt to the change in enrollment trends by modifying state financial aid provisions. The maintenance of state financial aid may be crucial to some districts during a period of adjustment to lower enrollments. As described in Section 2.2, slightly more than a third of the states responded that they had more provisions in state aid formulas to compensate for declining enrollments.

Descriptive statistics are available on these matters. We find states have not reacted very quickly to the enrollment declines. Generally, providing consultants is the only form of assistance provided specially to these districts losing students. For example, only one state provides special financial aid grants to high decline districts.

2. SEA DECLINING ENROLLMENT SURVEY

2.0 Introduction

The major issue involving both the states and the LEAs together is the effect of declining enrollments on the distribution of state aid funds. If aid formulas are based directly on current ADA or inversely on assessed valuation per pupil, those districts with declining enrollments could lose large amounts of funding unless steps are taken to adjust the distribution formulas. Since it is probably impossible for districts to reduce costs commensurate with pupil losses and cost reductions are apt to lag well behind losses of students anyway, the loss of state aid to declining districts might be crucial. It is during this adjustment period when aid both monetary and in terms of guidance might be most important.

Part of the problem is a need to adjust to the notion of decline.* Growth has been a watchword for so long, it may be difficult for both SEAs and LEAs to become aware that the days of seemingly incessant growth are over and new strategies must be developed to cope with decline. It must be recognized that the problems of decline are very dissimilar to those of growth and cannot simply be treated as growth in reverse--that we cannot mechnically go back the way we came.

To judge the current state orientation, DES questionnaires were sent to all fifty state education agencies to elicit the SEAs' perceptions of and responses to declining enrollments. Only five of the agencies did not return the questionnaires after some follow-up of the early non-responders. Also, not all questions were responded to by all 45 SEAs. Mostly, the questions on the survey were directed toward ascertaining the assistance state agencies were providing to the local school districts with enrollment declines.

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*See Kenneth E. Boulding on this point in his introduction to a paper by Mark Rodekohr, "Adjustments of Colorado School Districts to Declining Enrollments," a report submitted to the IBS subcommittee on Academic Disciplines of the Study Commission on Undergraduate Education and the Education of Teachers, University of Nebraska, Lincoln, Nebraska, September 1974.

TABLE 4
ENROLLMENT PROJECTIONS

State/Year	1975	1980	1985	1990	1995
Alaska	89,295	92,309	-	-	-
Arizona	487,591	523,748	-	-	-
ARkansas	456,703	420,365	-	-	-
California	4,284,271	3,934,300	4,053,500	-	-
Colorado	568,851	535,627	544,304	589,244	-
Delaware	127,476	107,239	-	-	-
Florida	1,453,170	1,493,555	-	-	-
Hawaii	175,795	169,641	176,800	186,900	201,000
Illinois	2,252,000	2,015,000	1,889,000	-	-
Indiana	1,173,863	1,094,400	1,036,600	-	-
Kansas	442,236	435,000	-	-	-
Kentucky	691,612	698,575	-	-	-
Maryland	876,280	816,657	783,889	-	-
Massachusetts	1,160,950	1,075,520	-	-	-
Minnesota	879,944	940,787	870,943	908,494	971,475
Montana	171,686	162,829	-	-	-
Nebraska	316,581	300,318	-	-	-
New Jersey	1,467,000	1,296,000	1,150,000	-	-
New Mexico	280,851	263,557	-	-	-
North Carolina	1,171,444	1,127,645	-	-	-
Ohio	2,291,382	2,040,423	-	-	-
Oregon	476,588	459,961	-	-	-
Pennsylvania	2,246,218	1,903,600	1,711,000	-	-
Rhode Island	16,411	15,662	-	-	-
South Carolina	602,532	588,117	569,907	-	-
South Dakota	151,267	144,000	-	-	-
Utah	309,708	329,173	-	-	-
Virginia	1,105,000	1,035,000	-	-	-
West Virginia	370,000	342,000	325,000	-	-
Wisconsin	941,690	894,300	-	-	-

2.1 Perception of Declines

Actual declines in enrollments are documented in Table 3 of Chapter One. SEAs were quizzed if they made projections of enrollments at least through 1980. Thirty of the forty-five respondents had made projections for 1980 or beyond though only eight of the states made projections beyond 1980.

As might be expected, the projections are almost always predictions of continued declines. Only five states predict increases between 1975 and 1980 (see Table 4). The SEAs that predict increases for their states are aware that some districts could still suffer severe declines. (For example, three of the five states, presumably recognizing this problem, provide technical assistance to districts suffering declines.)

The SEAs were asked to describe their preceptions of which "types" of districts would suffer the worst percentage decline. Six catagories were listed in the DES to be ranked in order from the "most likely" to experience the largest percentage reduction to the "least likely." The results are listed in Table 5.

TABLE 5

DISTRICTS MOST LIKELY TO EXPERIENCE DECLINES

District	Most Likely to Decline				Least Likely to Decline	
	1	2	3	4	5	6
State's Largest City	18	6	4	3	1	4
State's Next Five Largest Cities	3	16	6	2	7	1
Suburbs Around the Largest City	4	2	4	9	4	13
Other Cities and Towns	3	9	10	7	5	1
Other Suburbs	0	0	3	10	8	3
Rural	10	6	6	5	7	10

The category of district most frequently listed to suffer the largest reduction in enrollment was "State's Largest City." Forty-seven percent of the respondents selected the largest city. Rural districts received ten votes--both for "most likely" and "least likely." However, the basic pattern of response suggests declines are expected most in the large urban areas of the states. The largest cities were selected first or second "most likely" twenty-four times and the "State's Next Five Largest Cities" were was picked first or second nineteen times.

Aside from making projections, little special study of the decline in enrollments has been done by the SEAs. Only fourteen percent of the respondents (six of forty-three to the relevant question) had completed special reports on the subject. Six state agencies knew of studies done for their states but not by themselves, and seventy-two percent of the respondents knew of no study of declining enrollments in their states.

2.2 Fiscal Adjustments and Other Assistance

Only slightly more than one-third (37 percent) of the states responded they had made provisions in their state aid formulas to compensate for declining enrollments. Those states which do make provision tend to use some sort of enrollment averaging, incorporating at least the preceding year in the aid distribution formula. Such a measure prevents a sudden critical loss of state aid to a district losing students rapidly. Table 6 provides a description of the enrollment adjustment and hold harmless provisions in 21 state aid formulas. It should be pointed out that formulas which only allow using preceding years ADA, though better than no adjustment provisions, still allow for rapid reductions in state aid. Only one state, Montana, provided special grants to aid districts in coping with the changes which reductions in enrollment can create.

TABLE 6

ENROLLMENT ADJUSTMENTS AND AID GUARANTEE PROVISIONS BY STATE

	Fall 1971-Fall 1975 K-12 Change in Enrollment	Enrollment Adjustment for State Aid Purposes
Arizona	+4.0%	Prior year's pupil count may be used.
Colorado	-2.7	Prior year's ADA or average of 3 years ADA may be used if greater than current enrollment.
Idaho	+0.1	Where ADA loss exceeds 3 percent of prior year's ADA, or 25 pupils in ADA, prior year's ADA less 3 percent is used.
Illinois	-4.3	Average of 3 prior year's WADA (excluding Title I pupils) if greater than current WADA.
Indiana	-4.4	Prior year's pupil count may be used.
Iowa	-5.7	50% of the initial 5% decrease in enrollment, 25% of the decrease greater than 5% may be used for aid purposes. Additional aid may be authorized by School Budget Review Committee upon appeal.
Kansas	-11.4	Prior year's enrollment may be used to calculate district budget (affecting state aid) if decline is less than 5, 7.5 or 10 percent in large, medium, or small district, respectively.
Michigan	-4.2	Basic aid districts with more than a 2% decline over prior year's enrollment receive aid for each additional lost pupil, the amount of which depends on the appropriation.
Minnesota	-3.3	60% of decrease from prior year in weighted ADM. 50% of decrease for Minneapolis and St. Paul districts.

TABLE 6 (Continued)

	Fall 1971-Fall 1975 K-12 Change in Enrollment	Enrollment Adjustment for State Aid Purposes
Montana	-4.2%	Prior year's "average number belonging" may be used.
N. Dakota	-8.6	Average enrollment for two years may be used.
Ohio	-5.1	Average of three years' ADM may be used.
S. Carolina	-4.1	District may use current or prior year's ADA. Created to deal with "fluctuating" enrollment problem.
S. Dakota	-7.4	Average of prior two years of enrollment may be used.

	Fall 1971-Fall 1975 K-12 Change in Enrollment	Hold Harmless Guarantee
Arkansas	-2.2%	Previous year's total aid guaranteed.
Florida	+4.4	Previous year's per pupil aid guaranteed.
Mississippi	-3.8	Guarantee of 95% of teacher units based on prior year.
Oregon	-1.1	75% of current year's flat grant allocated for each pupil "lost" between December 31 of current year and June 30 of prior year.
Nevada	+4.5	Previous year's total aid permitted. Emergency financial assistance available to alleviate financial hardship.
New Jersey	-2.7	Effective in 1976-77--hold harmless guarantee of total aid paid in 1974-75; 50% hold harmless in 1977-78; none thereafter.
New York	-3.1	Previous year's total aid is guaranteed.

The most favored form of technical assistance state agencies (19 in the DES sample) provide to local districts is making consultants from the state office available. The extent of assistance consulting arrangements imply could not be discerned from the DES. Twenty-five states provide and plan to provide no assistance whatsoever. A summarization of the types of assistance indicated on the DES by the states is given in Table 7, below.

TABLE 7

TYPES OF TECHNICAL ASSISTANCE PROVIDED BY STATES TO DISTRICTS IN DEALING WITH DECLINING ENROLLMENT PROBLEMS

Organizing Workshops	3
Making Consultants Available	19
State Publications of Strategies to Deal With Problem	5
Planning Grants	2
Other	6
No Assistance Indicated	25
Total Number of States Responding	45

2.3 Summary

The results of the DES suggest that while state education agencies are clearly aware of the phenomenon of declining enrollments, the phenomenon has only recently drawn the attention of many agencies as a problem. Only now are most states formulating strategies for helping local education agencies to deal with the loss of students. The most frequently employed current strategy is a consulting arrangement between the SEA and local district office.

While in some states declining enrollments is perceived as a rural phenomenon, mostly it is associated with urban areas. The fiscal problems of urban areas are well documented, and a loss of state aid to urban

schools following a loss of students should be recognized as a problem, especially during a transitional period when the LEAs are just beginning to respond to the reductions in their numbers of student.

3. LEA DECLINING ENROLLMENT SURVEY

3.0 Introduction

The LEA Declining Enrollment Survey (DES) was designed to gather information on the nature and extent of the decline in enrollments, the effects of this decline, and LEA responses to the problem.

The sample of LEAs was designed to include from each state the ten districts with the most severe declines. The ten districts were to include the five districts with the highest percent decline in enrollments and the five districts with the highest decline in number enrolled. Where a district ranked among the five districts with the highest percentage decline and also among the five highest number decline, an additional district was selected in order that ten be selected.

The survey was conducted using follow-up procedures for non-respondents and careful manual and computer edits to check for errors in data conversion and for the reasonableness of responses. After these procedures, 257 usable LEA surveys were obtained. However, not all of the 257 LEAs completed all questions and, for this reason, sample sizes vary depending on which questions in the survey are being analyzed.

As with any survey, the quality of responses varied between questions. The data presentation which follows will identify many of these areas. In general, there are instances where the pattern of responses reflect a non-conformance of attitudes or perceptions towards the problem with the structure in the survey questionnaire. This is not a reflection against the survey instrument or the respondents, but rather a disadvantage of the mail survey as opposed to an interviewer conducted survey.

In reporting the results of the survey, summary statistics are often presented for all the LEAs with usable responses and for two subsets of these LEAs. The subsets are obtained from two measures of the severity of the decline in enrollments: the percentage decline in enrollments and the absolute size of the decline in enrollments. As the data on Chart 1 show, by whichever of these two measures is used, there is considerable variation in the degree of decline within the sample. Secondly, as underlying dimensions upon which the sample of districts was originally selected, it is logical to maintain this distinction between percentage and absolute declines in the evaluation of the empirical results.

These two measures of decline have important policy significance. As two likely measures to be employed in the implementation of any state policy to provide special assistance to declining districts, it is important to understand where differences exist between the two measures. The two subsets of data used in this section are (1) LEAs with "High Percent Decline," i.e., a greater percentage decline 1971 to 1975 than the median percent decline and (2) LEAs with "High Absolute Decline," i.e., a larger absolute decline in enrollment 1971 to 1975 than the median absolute decline.

The major findings and results of the DES are reported in the three subsections which comprise the remainder of this section. The first presents data on the nature and extent of the declines reported by survey respondents. The second subsection relates changes in LEA revenues, state aid and tax base during this period of decline. LEA responses to the effects of declining enrollments are reported in the third subsection.

3.1 Nature and Extent of Declines in Enrollments

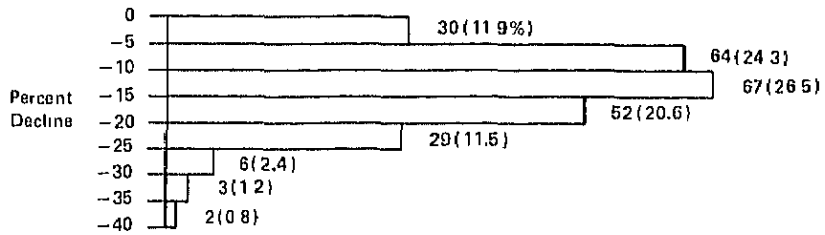
Chart 1, consisting of bar graphs, displays the extent of percent decline in enrollments from 1971 to 1975 for LEAs in the survey. The

Chart 1

Distribution of DES LEAs and Summary Statistics of Percent Decline in Enrollments (1971 to 1975)

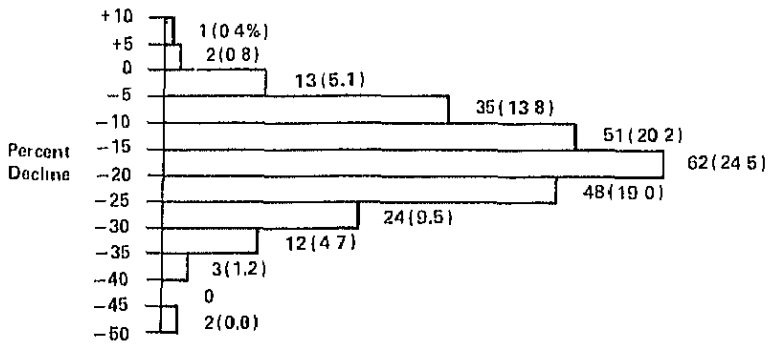
Number of LEAs (Percent of Total)

Grades K – 12



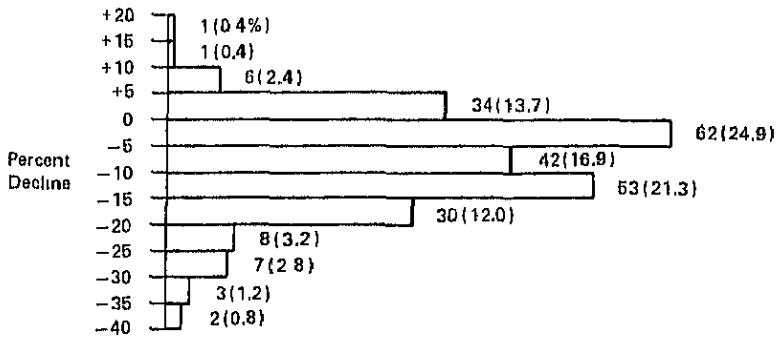
Total = 253 (100%)
Mean = – 13.6%

Grades K – 6



Total = 253 (100%)
Mean = – 17.6%

Grades 7 – 12



Total = 249 (100%)
Mean = – 8.5%

top-most graph is for the percent decline for grades K-12 while the two bar graphs which are below it are for elementary (K-6) and secondary (7-12) enrollments. The graphs clearly show that although the sample purposely selected districts with the largest enrollment losses, there is still considerable variation in the severity of decline.

The DES sample of LEAs exhibits the same pattern of greater declines on the elementary levels which was reported in Section 1 for the nation (Tables 1 and 2). The mean percent change in LEA elementary enrollments was -17.6 percent compared to -8.5 percent for the mean percent change in secondary enrollments.* Unlike the national totals on Tables 1 and 2, the enrollment data for the survey LEAs on Chart 1 show declines in secondary enrollments.

As explained in Section 3.0, we used the two measures of decline- percent and number- to identify the characteristics of the LEAs along these two dimensions. So the LEAs were divided into two subsets: "high absolute decline" LEAs (with an absolute decline greater than the median) and "high percent decline" LEAs (with a percent decline greater than the median). There was found to be no relationship between percent decline and high absolute declines. For example, cross tabulation shows an almost equal number of LEAs exist in each combination of high/low absolute and percent declines. Hence, we would not expect the presentation of results for high percent decline LEAs and for high absolute decline LEAs to be redundant.

Since declining enrollments are widely considered to be an urban problem, we used the 1970 Census definition of metropolitan to identify sample LEAs in metropolitan areas. We found the sample LEAs were almost equally split between metropolitan and non-metropolitan, with 131 and

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*Such DES LEAs reported a gain in secondary enrollments, but this gain was exceeded by losses in elementary enrollments. The few LEAs which reported growth in K-12 enrollments were eliminated from the data base.

and 122 LEAs in each respective category. The metropolitan characteristic is closely associated with high absolute declines (79 percent of metropolitan LEAs were in the high absolute decline subset of LEAs).

Slightly over one-half (56 percent) of the LEAs reported an enrollment projection to 1980.* On average, the projection was for a decrease of 12 percent in K-12 enrollments. This is similar to the average percent decline of 14 percent from 1971 to 1975.

The DES asked respondents to rank a list of causal factors for the decline in enrollment in their LEA. Table 8 is a summary of the rankings of these causal factors. Some respondents merely checked causal factors and there were also cases of non-response, mostly because a factor did not apply although there were a few LEAs which did not respond at all. The most significant feature is the high rankings of the decline in birth rate by a large portion of districts and the frequent choice of general out-migration as a second causal factor.

TABLE 8

RANKING OF CAUSAL FACTORS OF DECLINE IN ENROLLMENTS
PERCENT OF ALL LEAS IN DES RESPONDING

Rank	Causal Factor				
Rank	Decline in Birth Rate	General Out-Migration	Closing or Relocation of Major Industry	Change in District Boundary Lines*	Other
1	49.8%	18.7%	3.1	0.8	11.7
2	21.4	28.4	5.1	1.2	8.9
3	8.9	7.0	9.7	2.7	7.0
4	.4	3.5	4.7	3.9	1.9
5	0.0	.8	2.3	1.9	0.8
Checked	12.1	7.0	1.9	0.4	7.8
No Response	7.4	34.6	73.2	89.1	61.9
Total	100 %	100	100.0	100.0	100.0

*Districts citing this as the only reason for decline were excluded from the data set.

* The large portion of LEAs reporting no projection may be indicative of a need for greater SEA technical assistance to LEAs.

TABLE 9

NATIONAL SURVEY OF
FINANCIAL CHANGES IN SCHOOL DISTRICTS WITH
HIGHEST ENROLLMENT DECLINES, 1971 - 1975

Increases in Average District Amounts	High "Number Decline" Districts*		High "Percentage Decline" Districts**		All Districts	
District Revenues	34%	(22%)	25%	(22%)	32%	(21%)
State Aid to Districts	50	(68)	37	(71)	44	(60)
Locally Raised Revenues	28	(62)	23	(53)	27	(55)
District Tax Bases	23	(21)	20	(22)	24	(22)
Locally Raised Revenue per Dollar of Tax Base	3	(60)	8	(48)	2	(48)
Increases in Average Per Pupil Amounts						
District Revenues	56%	(25%)	54%	(26%)	52%	(22%)
State Aid to Districts	74	(80)	67	(85)	66	(69)
Locally Raised Revenues	48	(71)	51	(62)	47	(63)
District Tax Bases	44	(27)	49	(31)	44	(28)

Notes: Standard deviations are in parentheses.

*Responsing districts with the largest decline in the numbers of pupils attending school.

**Responding districts with the largest percentage decline in pupils attending school.

An instructive sidelight to this question relates to the use of the phrase "Decline in Birth Rate." While this is clearly the most important factor on a national level, on a local level it may be of lesser importance and an ambiguously worded choice. Respondents who considered the birth rate to refer to births relative to women of child bearing age distinguished this from a shift in the age composition of district residents away from those age brackets with school age children. On the national level the change in age composition is a factor of lesser importance. However, for small geographic areas, such as school districts, it can be a very important causal factor explaining declines in enrollments.*

3.2 Changes in School Finances

Table 9 provides a comprehensive summary of financial changes as reported by school districts surveyed. These changes are from 1971 to 1975, the same time period reported in throughout this section.

District revenues equals the average percentage change in the local districts' revenues both from their own taxes and from state sources. These revenues may be interpreted as approximately equivalent to district expenditures. The data show that even with declining enrollments total revenues (expenditures) grew by an average of 32 percent for all survey districts, and by 25 and 34 percents for the high percent decline and high number decline districts, respectively.

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*The spatial context of declines sometimes goes unrecognized in some studies which have emphasized the need for a new management for an era of decline. While overall or widespread decline is a new phenomenon compared to the growth of the past decade, many small geographic areas have experienced decline while national totals grew. Further, it can be seen from history that many cities have gone through long cycles of expansion and decline which did not coincide with national movements.

In the lower half of the table presents the average percent change in district revenues per pupil is given. On a per pupil basis, the increases in district revenue were much greater reflecting, of course, the decrease in pupils enrolled. The average increase in district revenues per pupil was 52 percent for all districts.

The statistics on average percent change in state aid and average percent change in state aid per pupil indicate that although enrollments decreased by an average of about 14 percent for all the LEAs in the survey sample, state aid increased by an average of 44 percent and state aid per pupil increased by an average of 66 percent. The average increases were even larger for districts in the high number decline subset with state aid increasing 50 percent and state aid per pupil increasing by 74 percent. These increases in state aid are larger than the increases in district revenues. Hence, for this survey sample, the average share of district revenues from state aid has been increasing while the share from locally raised revenues has been decreasing.

Upon first consideration this finding would seem to be in conflict with the findings and hypotheses of some other studies which conclude that declining enrollments have (or may have) adversely affected district revenue from state aid. For example, a National School Boards Association survey conducted at their convention found 71 percent of respondents with declining enrollments reported reduced state aid.* Other studies have indicated two adverse effects of enrollment declines which operate through state aid formulas. First, on the distribution side, lower pupil enrollments result in a reduced share of state aid. Second, equalizing type formulas provide less state aid for districts with greater taxable capacity (relative wealth). On this point Goettel and Firestine noted

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*National School Boards Association, Declining Enrollment, Research Report 1976-1, 1976, p. 4.

that, "A greater-than-average pupil decline will mean a greater-than-average increase in the local tax base per pupil, when all other factors are held constant. A district so affected will receive less state aid as a result of its greater relative wealth."* Finally, these two together with other provisions of state aid formulas may necessitate electorate approval of higher district tax rates in order to preserve levels of state aid (and levels of expenditure, as well).**

The findings of the DES survey regarding state aid should be interpreted carefully. The high standard deviations*** (higher than the mean

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*Goettel, Robert J. and Firestine, Robert E., "Declining Enrollments and State Aid: Another Equity and Efficiency Problem," Journal of Education Finance, Fall, 1975.

**These possibilities are suggested as areas needing future research in Hickrod, G. Alan, et. al., "Enrollment Change and Educational Personnel Change in the K-12 Schools of Illinois," Research Report 3-HYCH-76, Illinois State University, 1976, p. 40. The effects of revenue limits and voter reaction are discussed in Wenzel, Jack and Stock, John A., "How Declining Enrollments are Financially Killing California School Districts," mimeograph, Union School District, California, 1974, p. 4.

***The standard deviation is a commonly used measure of variation or dispersion of observations (districts) around the mean. It is expressed in the same units as the mean (percents in this case) and should be interpreted in terms of its magnitude relative to the mean. While the exact use of the standard deviation depends on the precise distribution of the data, without this knowledge there are still rules of thumb which can be used to roughly gauge variation using the mean and standard deviation. If the distribution were a normal (bell-shaped) distribution, approximately two-thirds of observations would be within one standard deviation of the mean and almost exactly 95 percent of observations would be within two standard deviations of the mean. For example, with a mean of 52 percent and a standard deviation of 22 percent about two-thirds of districts would be within the range of 30 and 74 percents and 95 percent of districts within 8 and 96 percents, if the distribution were normal. However, the objective here is not nearly so precise: we simply wish to indicate when there are clearly great amounts of variability about the mean such as when the standard deviation is much larger than the mean, or to indicate roughly the orders of magnitude involved. In the example given, the mean of 52 percent so large relative to the standard deviation, we can conclude that virtually no districts had a decreasing (less than 0) percent change.

values) indicate that there is a relatively large variation in the percent change in state aid. Thus, while on the average there were gains, many districts in the sample also lost state aid. Additionally, the gains to some districts may simply change in overall state aid policies. For example, in the DES, the few districts with the very highest percent gains in state aid were urban districts in Kansas and the district with the most extreme loss of state aid was a very wealthy district in Michigan. Both these states had major revisions in their state aid system. In this context, consider the conclusions reached by Odden and Vincent (in their empirical study of declining enrollments and state aid in four states): ". . .the consistent trend across all four states is at least prima facie evidence that declining enrollment districts are reaping some benefit of state education aid policy, whether or not there are special considerations for school districts with enrollment drops."*

Regarding particular provisions of state aid policy, there are a number which directly or indirectly alleviate the financial conditions of declining enrollment districts. Directly affecting the problem are provisions allowing adjustments to pupil counts such as the inclusion of some portion of recent pupil losses (or, equivalently, counting some portion of enrollments in previous years). Provisions which indirectly benefit declining enrollment districts include assistance and adjustments for effects of inflation and for conditions or characteristics associated with urban central cities, older suburbs, and very rural areas. Examples of these are assistance for municipal overburden, sparcity, and other high needs/high cost population characteristics.

In fact, greater assistance to declining enrollment districts between 1971 and 1975 may have occurred through categorical aid programs;

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*Allan Odden and Phillip E. Vincent, The Fiscal Impact of Declining Enrollments, Report F76-5, Education Commission of the States, 1976, p. 16.

conclusive data on this are not available. Moreover, the National School Boards Association survey findings mentioned earlier, may result from respondents comparing operating aid with the previous year. Over a longer period (e.g., 1971 to 1975), changes in total state aid may have benefited these diatricts.

Turning to locally raised revenues, it is apparent that the average local contribution increased by about a fourth (27 percent for all districts in the DES sample). As we would expect from the previous data, this increase is less than the increases in district revenue and in state aid to districts.

The increase in locally raised revenues would not create increased fiscal pressures if it were matched by an increase in district tax base. This growth might occur through inflationary or real increases in property values. The data for district tax base on Table 9 show an average increase in tax base which was several percent less than the growth in locally raised revenues.*

On a per-pupil basis, the growth in tax base was over 40 percent (44 percent for all districts and high number decline districts and 49 percent for high percent decline districts). As previously mentioned, equalizing state aid formulas provide levels of aid inversely related to the level of tax base per pupil. It seems certain that many districts will suffer loses of state aid with per pupil tax base growth of this magnitude.

The tax rate data entered by the respondents to the DES proved to be useless because of missing entries, entry of very crude approximations

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*LEAs reporting property tax base reappraisal or reclassification were excluded

of their rates, and many other special circumstances. However, an approximate effective tax rate can be calculated simply by taking a ratio of the locally raised revenue to district tax base. The average percentage change in this ratio was calculated and is presented on Table 9. This locally raised revenue per dollar of tax base shows only small changes, because there was relatively similar growth of local contribution and district tax base. The large standard deviations relative to the mean values are further evidence of the nature of fiscal pressures associated with declining enrollments. That is, the range of fiscal pressures varies widely among districts; many are suffering severe financial pressure and others have virtually no adverse effects.

As difficult as it is for the school finance analyst to isolate and quantify the financial effects of declining enrollments, so it would seem also to be very difficult for the LEA respondents. However, with the close examination of costs and revenues at least on an annual basis, respondents ought to be able to broadly categorize the effect of declining enrollments on overall fiscal pressures. Fifty-one percent of all LEAs (and 60 percent of the high percent decline LEAs) indicated that declining enrollments had a "strong effect," 35 percent of all LEAs indicated a "moderate effect" and 14 percent indicated "little or no effect." With the majority of districts indicating "strong" to "moderate" effects, it would seem that policy makers and researchers need to closely review and monitor changes in both LEA revenues (state aid in particular) and LEA costs on a statewide basis in order to plan and develop policies which take into account the fiscal pressures generated by declining enrollments.

3.3 LEA Responses

As mentioned in the introduction, the seniority/salary step mechanism may be a source of higher costs per pupil. The declining enrollments survey asked districts to provide data on numbers of staff by salary step by year. For the 148 LEAs responding to this question, an average of 38 percent of teachers were on salary step 5 or lower in 1971 and, by

1975, it had declined to 32 percent. High number decline districts declined from an average of 35 percent of teachers on salary step 5 or lower in 1971 to 28 percent in 1975. Over the same period, the percent of teachers on the first salary step dropped from 11 percent to 8 percent for all districts and, for high decline districts, it dropped from 8 percent to 5 percent. In summary, the evidence from the survey clearly indicates growing proportions of teachers in higher salary steps. By itself, this trend seems likely to result in a higher cost per teacher for coming years.

Concommitant with the decline in the proportion of teachers on the lower salary steps, there was an average decline of 5 percent in the total teaching staff of districts. Districts with a high percent decline in enrollments reported a greater average decline in teaching staff, about 9 percent. Since the average percent decline in enrollments for all districts in the DES was about 14 percent, districts are clearly in a higher cost situation for teaching staff. Not only were percent reductions in staff less than the percent decline in enrollments, but on average the reductions were in lower cost teachers, those on the lower salary steps.

There are some questions about staffing which the DES cannot help answer, though we raise them here because of their importance. What school conditions influenced LEA administration to reduce staff more in high percent decline districts than in the high absolute decline districts, or in the whole sample of districts? For example, what role did teachers organizations play? And were there greater cuts in special teachers and cuts in instructional services in the smaller or rural districts? Were the larger or more urban districts able to divert surplus staff to working with special needs populations? Also, does the reduction of the number of new and young teachers into the system imply a stagnation and a lack of innovation in a system? These are important questions which will eventually require answers.

Pupil/teacher ratios decreased (improved) during this period. For all DES districts, on average there was a 10 percent decline in the pupil teacher ratio with 87 percent of LEAs showing a decrease. There are several reasons why teaching positions are not reduced as quickly as enrollments.* First, for institutional and legal reasons there are lags in decision-making process, i.e., staff reductions will occur only after a decline in enrollments has taken place. Second, often in smaller schools proportionately large enrollment declines must take place before it becomes reasonable to eliminate teaching positions. For example, there are often marginal decisions between, say, two or three teachers at a grade level which involve class sizes, transferring pupils and other administrative choices. Third, since the sample of LEAs was designed to include districts with the most drastic declines, these LEAs may have found it particularly difficult to eliminate teachers.

About two-thirds of all districts report that attrition alone was sufficient to eliminate surplus teaching positions. More of the high percent decline LEAs found attrition was not sufficient (42 percent) than the total sample of LEAs (30 percent). Teachers were reported laid off by 23 percent and early retirement encouraged by 11 percent of the sample LEAs. Of the high percent decline LEAs larger percents, 33 and 17, reported teachers laid off and/or early retirement encouraged, respectively.

Over half the LEAs found the response of teacher organizations to be "cooperative" or "highly cooperative". Since most districts have shown decreasing pupil/teacher ratios and an average of 23 percent have had teachers laid off, this is not a surprising result. About one fourth (24 percent) indicated that teachers organizations were "indifferent" and only 14 percent chose the term "recalcitrant" to describe them.

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*These reasons are frequently cited as justifications for counting "ghost" pupils, i.e., although students have left their costs linger several years after.

Declines of sample LEA central office professional staff and building-level principals averaged 5 percent and 8 percent, respectively. However, only 100 respondents replied to these questions while 221 replied to the question on teacher declines. Perhaps many administrators filling out the questionnaires felt it would be misleading to compare enrollment declines with trends in administrative staff. For example, it might be argued that administrative positions should be expected to grow because of the many problems of recent years and the many programs districts are responsible for. Declining enrollments could conceivably increase administrative burdens becuase of the need for management of reduction in force, facilities disposition and utilization, and community relations.*

Program cutbacks are listed in Table 10. On the elementary level art, music and physical education were most often cut back and on the secondary level 20 percent of LEAs identified foreign languages as a program area cutback.

One method of preserving program offerings at reduced cost is the use of interdistrict cooperation. Also, interdistrict cooperation in the provision of services such as purchasing, planning or transportation are possible options. The DES questionnaire asked about these and the possibility of consolidation with neighboring districts. Apparently no such cooperative arrangements have been initiated as a result of declining enrollments; there are some which existed prior to declines.

Declining enrollments necessitated the closing of school buildings in 43 percent of the DES LEAs. Not surprisingly, a larger percent of the high absolute decline LEAs (64 percent) reported building closings. There was a wide range of ways in which LEAs disposed of buildings with no one identified more frequently than others. Concurrent with declining enrollments between 1971-1975 many districts had new school construction,

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*A detailed study of Illinois found growth in the number of administrative staff at the same time enrollment and teaching positions fell. G. Alan Hickrod, et al., op. cit.

TABLE 10

PROGRAM AREA CUTBACKS ASSOCIATED WITH DECLINING ENROLLMENTS BY ELEMENTARY AND SECONDARY GRADE LEVELS

	Percent of Total DES LEAs	
	Elementary	Secondary
Art	15%	7%
Music	16	7
Physical Education	13	5
Foreign Language	4	20
Guidance Counseling	6	11
Psychological Services	4	3
Social Work Services	4	4
Attendance Services	6	5
Extra-Curricular Activities	5	6
Other	6	6

perhaps because of the age and condition of physical plant or because of shifts in population patterns. New school construction was reported by 46 percent of all DES LEAs and 56 percent of the high number decline LEAs.

The majority of LEAs (54 percent of all sample LEAs and 79 percent of high number decline LEAs) had some community participation in the decision-making process used to determine school closings. Clearly, school closings were an issue in many more LEAs than actually had closings. The most frequent forms of community participation were the citizens advisory committee and community information meetings while the referendum was very seldom used.

Finally, the survey asked about assistance with planning and problems from outside consultants and/or from the state education department. About two-thirds (67.5 percent) of LEAs did not retain outside consultants and over half (57 percent) did not seek technical assistance from the state education department. However, approximately one-fourth reported attending state workshops (29 percent) and/or the state education department providing direct help to the district staff (25 percent). It is difficult to draw conclusions about the quality of SEA and LEA relations from this evidence alone. LEAs may find themselves needing more technical assistance with other problems and utilizing department assistance with these matters instead of the problems of declining enrollments.

In general, many of the survey responses are information of a partial nature. Many conclusions regarding the behavior and problems of LEAs depend on information regarding the whole situtation, i.e., information on all other interacting factors as well as information on declining enrollments. These other factors could then be controlled for in order to isolate the effects of and responses to declines in enrollments. Nevertheless, the information from this survey provides some insight into the severity of the problem and district response.

4. SUMMARY

As seen in Chapter Three, the SEAs perceive enrollment declines as either (a) an urban phenomenon or (b) a rural phenomenon with more stress placed upon the difficulties of decreasing numbers of students in an urban setting. However, in the DES of LEAs, 122 of the 253 respondents were non-metropolitan areas. This near fifty-fifty split may be a result of a bias in the response pattern, but large numbers of non-metropolitan areas are affected by this phenomenon. Because of their relatively large population concentrations, metropolitan areas tend to attract notice, but SEAs must frame their policies not only to aid metropolitan areas but the many non-metropolitan also affected.

In terms of policies, 42% of the responding state agencies made consultants available, but only 25% of the LEA respondents availed themselves of their assistance. An interesting side light is 28% of the local education agencies reported having representatives attending state sponsored workshops on declining enrollments though only 3 states reported having sponsored such workshops.

Comparison of results of Chapters 2 and 3 reinforce the notion that most state agencies have not taken positive action in helping LEAs to cope with enrollment declines. However, since more than half the local agencies in the DES reported requesting no technical assistance from the states, the SEAs cannot be blamed for diverting resources to other areas in which LEAs might be asking for assistance.

The analysis of LEA finances (Section 3.2) found that on average there were increases in both district expenditures and state aid. Aid increased slightly more than expenditures, which would indicate a large share of revenues from state rather than local sources. However, there was much larger variation in changes in state aid. We conclude that there is no simple picture of the results of declining enrollments on

state aid; many districts have not had losses in revenues from state sources, but other districts have had losses in state aid.

Some reduction in services has occurred as a result of declining enrollments. There were reductions in teaching staff, but in almost 80 percent of LEAs these had led to a decrease in the pupil/teacher ratio. (However, it is quite possible that this is temporary since reductions in force may lag behind enrollment declines). Accompanying this reduction have been program cutbacks. About 20 percent of LEAs identified art, music and physical education on the elementary level and foreign languages on the secondary level.

Moreover, there has been a reduction in the proportion of teachers on the lowest salary steps. This leads to an increase in the average cost of teaching staff, since a larger proportion of teachers are now on higher salary steps. This trend has the potential for adverse educational impacts stemming from the loss of younger teachers who, having learned new methods, can transfuse fresh blood in a system which might otherwise stagnate.

Many LEAs, especially those with large declines, reported building closings. Most LEAs reported some community participation in decision-making for building closings.

It is clear that declining enrollments affect many aspects of school district operations. This presents difficulties for managers and policy-makers alike.

FISCAL CONTROLS AND TAX REQUIREMENTS IMPOSED BY STATES AND TAX OPTIONS AVAILABLE TO SCHOOL DISTRICTS

In recent years, school districts plagued by rising costs, have sought additional State and local revenues. Where State aid to LEAs has not kept pace with increased costs, additional pressures were imposed on local tax sources, most notably on property taxes. These cost-revenue problems were exacerbated in many school districts faced with declining enrollments, resulting in a loss of State aid, precipitously in some States and over time in others. The imminent or delayed prospect of State aid loss for such districts at a time when program costs did not diminish with declining enrollments, imposed additional pressures for increased local revenues.

In the midst of this cost-revenue crunch, property revaluations reflecting inflationary pressures have led to increases in local property tax bills. In addition, many States have moved towards a more effective program of property tax administration, which has made the property tax more productive. Revaluations in the midst of inflationary rises in property values have often led both to growing taxpayer resistance to budget requests of local school authorities as well as to demands for property tax relief. In light of these circumstances this report on the variety of measures which States use to control the growth in either revenues or expenditures of school districts has been compiled. State requirements with respect to local school district revenues have also been reported. This paper is limited to a review of practices affecting current revenues and expenditures.

District Fiscal Controls

In all States, school districts or dependent school authorities face some form of constraint on their ability to raise revenues and expend money for public schools. These include: limits on tax rates; revenue (levy ceilings) or expenditure ceilings; review and/or approval by a separate fiscal authority; and district voter approval. The variety of controls imposed by the States are reported in Table I.

Esther O. Tron, U.S. Office of Education

Table I

School District Current Expenditure Controls, by Type of Control and by State, 1975-76

State	Tax Rate Limit (1)	Revenue or Expenditure Limit (2)	Separate Fiscal Authority Review/Approval (3)	District Voter Approval		
				Up to Tax Rate or Revenue/Expenditure Limit (4)	To Over-ride Tax Rate or Revenue/Expenditure Limit (5)	Unlimited Rate (6)
Alabama	x			x		
Alaska	x		x			
Arizona		x	x		x[a]	
Arkansas						x[a]
California		x			x	
Colorado		x			x	
Connecticut			x			x[b]
Delaware						x
Florida	x					
Georgia	x				x	
Hawaii			x			
Idaho	x				x[a]	
Illinois	x			x		
Indiana		x	x			
Iowa		x			x[c]	
Kansas		x		x		
Kentucky	x				x	
Louisiana	x			x		
Maine	x	x	x	x[b]		
Maryland			x			
Massachusetts			x			
Michigan	x			x		
Minnesota	x				x	
Mississippi	x		x		x[c]	
Missouri						x[c]

See footnotes at end of table.

Table I. (Cont'd)

School District Current Expenditure Controls, by Type of Control and by State, 1975-76

State	Tax Rate Limit (1)	Revenue or Expenditure Limit (2)	Separate Fiscal Authority Review/Approval (3)	District Voter Approval		
				Up to Tax Rate or Revenue/Expenditure Limit (4)	To Over-ride Tax Rate or Revenue/Expenditure Limit (5)	Unlimited Rate (6)
Montana		x			x[a]	
Nebraska						x[c]
Nevada	x					
New Hampshire			x			x[b]
New Jersey		x[d]			x[d]	
New Mexico	x					
New York	x[e]					x
North Carolina			x			
North Dakota	x				x[c]	x[c]
Ohio						x
Oklahoma	x			x[a]		
Oregon		x			x[a]	
Pennsylvania	x[c]					
Rhode Island	x		x			
South Carolina			x[f]			
South Dakota	x				x[c]	
Tennessee			x			
Texas	x			x[a]		
Utah	x			x		
Vermont						x[a]
Virginia			x			
Washington						x[a]
West Virginia	x				x[c]	
Wisconsin		x				
Wyoming	x				x[c]	

[a] Annual vota required.

[b] In district annual budget meetings.

[c] Subject to special conditions. See Table II.

[d] Effective with tha 1976-77 school year.

[e] For city school districts only.

[f] For dependent districts only. Authority of independent districts to levy rates is unlimited.

Tax rate limits. One of the most common forms of restriction is the imposition of tax rate ceilings either for school purposes or for all local governmental operations. In most States where tax rate ceilings are in effect, they do not appear to be an onerous form of control, since they allow local revenues to rise both through reassessments and through the addition of new starts in housing and business properties, and in agriculture. Some twenty-four States reported the existance of tax rate limits affecting school districts, and they are reported in column (1) of Table I. As this Table shows, more than one type of control may be operative within a State. For example, a State may establish a tax rate ceiling part of which may be board levied with the remainder requiring voter approval. Where voter approval is required, some districts in a State may approve the school millage rate annually while in other places, voters may authorize a rate for several years. Some of these distinctions are amplified in Table II.

Revenue or Expenditure limits. A more recent form of revenue/expenditure control is that imposed by a dollar ceiling on the allowable growth in revenues or expenditures either per pupil or in total district tax revenues or levies. Allowable ceilings were usually expressed as a percentage change in a district's revenues or expenditures. Dollar ceilings were often part of the school finance reform legislation enacted in the nineteen seventies and had two goals, namely to reduce revenue/expenditure disparities among the school districts in a State and secondly to reduce reliance on local property taxes. Reform legislation which included revenue or expenditure ceilings was enacted in Arizona, California, Colorado, Iowa, Kansas, Maine, New Jersey and Wisconsin (See Table I, column (2)). Of these States, Colorado, Kansas, Maine and New Jersey introduced differential growth rates which allowed low spending districts to increase expenditures at a faster rate. The differential growth rate was, in principle, designed to allow low spending districts a chance to "catch-up" to the average spenders. The preliminary results of these growth ceilings are, at best, mixed. The big spending districts have often been able to retain their spending advantages in actual dollars even with lower growth rates. Further, most States allow districts the option of exceeding these ceilings, though some over-ride provisions are more restrictive than others. In Kansas, for example, no district may exceed its prior year budget by more than 115 percent even with voter approval. In California, on the other hand, voter over-rides are unrestricted. See Table II for details.

Another feature of the State-imposed dollar ceilings is that they may apply only to the shared-cost program. While the ceilings have the effect of curbing property tax growth in this program area, districts must rely heavily on local property taxes for financing other parts of the education program. In Kansas, for example, local property taxes support most of the special and vocational education programs.

The most restrictive revenue limit was enacted in Indiana which placed a firm ceiling on local property tax revenues, the primary purpose of which was to provide property tax relief: no revenues beyond those levied in 1972 and payable in 1973 could be derived from property taxes, except where increased enrollments had occurred. Provision for a local option income tax in the Indiana law is designed to lessen the reliance on property taxes and to shift a growing share of the school tax burden on to income taxes. At the present time, 32 out of Indiana's 92 counties impose local optional income taxes for school purposes. A levy limit is also in effect in Ohio which may be exceeded by majority district vote. The impact of this limit on one district is discussed below.

Fiscal authority review. In some States, the budget controls are exercised by a fiscal authority independent of the LEAs. These authorities may be entities of the county governments or of municipalities depending on the location of the school districts. In Hawaii, it is the State legislature which acts upon the budget request of the State Department of Education, though the Governor does have the power to release or restrict appropriated funds. In Massachusetts, this review is pro forma: the local fiscal authority is required to levy the millage necessary to generate sufficient revenues for meeting the school district budget request. In other States, the fiscal authority is empowered to lower school budget requests, which is typically true in dependent school districts. States requiring either a budget review or approval are identified in column (3) of Table I.

Voter controls. District voter approval is the principal fiscal control exercised in those States which are identified in columns (4) and (5) of Table I. Again, voter approval takes a variety of forms and may be required annually or over a period of years. The multi-year authorization initially allowed school districts to issue serial bond levies for capital improvements, but this distinction has been blurred and such

levies are now often authorized for operational purposes. Approvals in excess of a majority of those voting are required in some States for increasing school tax rates with the not unexpected result that the necessary approval is often impossible to obtain.

In some States, school boards are enpowered to set school tax rates up to specified maximums. Additional tax levies require voter approval which may or may not be limited depending on State law. Where school boards have some latitude in setting school tax rates, district voters can retain ultimate control, by voting out of office school board members whose fiscal measures incur their displeasure.

In a few dramatic cases, school levies are rejected by district voters and lead to school closings. Such dire consequences occurred recently in Oregon and Ohio. In Oregon, an annual vote of a district's budget is required because most school districts have had their tax base and the resulting levy frozen at the same dollar level since the nineteen forties. Though the State constitution allows a six percent annual growth in a district's tax base, this amount lags further and further behind the actual levies required to operate a school district at current price levels. Districts do have an option to vote higher tax bases but district voters have generally refused to do so. Often, district budgets in Oregon must be voted upon more than once to achieve voter approval. For the 1976-77 school year, out of 334 districts, 208 districts had their budgets approved on the first vote; 62 districts required two votes; 33 districts were successful on the third vote; 8 districts required four votes; and 1 district achieved success on the fifth ballot. Three districts were unable to achieve majority voter approval for their budgets even though they had held a combined total of twelve elections. These levy failures resulted in actual school closings in those districts. Under these circumstances, some school finance officials in that State view their present revenue raising processes as seriously requiring legislative revisions.

In Ohio, the temporary closing of the Toledo school system as a result of the failure to pass a millage levy capture national attention. At the present time, Ohio counties are undergoing reappraisals designed to bring property valuations up to the legally require 35 percent of market value. However, a levy limit has been imposed

which restricts the amount of property tax revenues to that existing prior to the reappraisals. As a result, tax rates have fallen while revenues remained unchanged. Reappraisals have not made the property tax more productive, rather the result was to apply property tax rates more uniformly and provide property tax relief. The decline in millage rates in Toledo following property revaluations created a revenue shortfall which the district was unwilling to close by voting an additional tax levy.

To summarize, local ability to raise school revenues is subject to constraints in all States with some forms of constraint being more restrictive than others. Tax rate ceilings allow for automatic growth in school revenues in tandem with property valuations. Revenue/expenditure ceilings or levy limits can be more or less restrictive depending on voter over-ride provisions. Approval of a district budget by a fiscal authority may reflect the current fiscal positions of these entities at the time budget requests are reviewed. District voter approval whether required annually or for multi-year authorizations offers a potent instrument to taxpayers to resist school district budget requests or to vote board members out of office.

District Fiscal Requirements, Options, and other Tax Resources

In Table 11, information on local financial support requirements, leeway options, and available local nonproperty tax revenues are reported by State. Columns 1 and 2 report the number of districts by fiscal status for each State. The important operational difference between fiscally dependent and independent school districts is in the ability of the latter to levy a separate tax for school purposes. Independent school districts are by far the most common fiscal type in our country. For our purposes, the importance of the distinction lies in that it has a bearing on the type of revenue/expenditure controls which a State imposes and which were reported in Table 1. For example, budgets for fiscally dependent districts are normally subject to review and/or approval by separate fiscal authorities and not to voter approval.

Table II
District Requirements for Basic Aid Programs, Leeway Options, and Other Local Tax Sources for Schools, by State, 1975-76

State	Fiscal Status: Independent Districts (1)	Fiscal Status: Dependent Districts (2)	Basic Aid Districts (3)	Required Local Contribution to Basic Aid Program (4)	Local Leeway Options (5)	Local Non-Property Taxes (6)
Alabama	127		127	County tax 4 mills District tax 3 mills	5 mills may be voted on a county basis.	Sales, beer and tobacco taxes
Alaska		32		Varies with required district contribution to shared cost program.	Levy limit for all local public services is 3 percent or 30 mills	Sales taxes, business license refunds; Raw fish tax refunds
Arizona		248	248	13 mills	District per pupil increase limited to 7 percent of statewide average budget. Districts may vote to increase this leeway.	Excise tax, cigarette tax
Arkansas	386		386	None[a]	Unlimited. If millage request is turned down by voters, then prior year millage remains in effect	None
California	1,035	2	Basic aid (flat grants) 1,037; Equalization aid distributed to districts with 82% of school enrollment.	For equalization aid Elementary districts: 10 mills, High school districts 8 mills: Unified districts 18 mills	Unlimited with voter override of district revenue limit. The revenue limit is the State authorized percentage increase over district revenue limit of prior year.	None
Colorado	181		181	Variable: Tax rate required to raise the local share of a district's authorized revenues.	District revenue limit is State-specified percentage increase of its prior year revenues. Subject to increase by State Budget Review Board or district voter over-ride.	A portion of vehicles license fees.
Connecticut		165	165	None	Unlimited.	None
Delaware	26		26	None	Unlimited with voter approval	Capitation tax optional with voter approval
Florida	67		67	6.2931 mills	Up to a combined total of 8 mills.	None
Georgia	188		188	Varies with required district contribution to shared cost program.	A levy increase above 20 mills requires majority voter approval.	Part of city or county alcoholic beverage taxes may be used for schools.
Hawaii		1	1	No local tax requirement: full State support	Not applicable	Schools are supported through regular State revenue system

[a] Revised in 1977. A chargeback of 45 mills on a 20 percent assessment is required for any additional formula aid provided since the 1975-76 school year

Table II. (Cont'd)

District Requirements for Basic Aid Program, Leeway Options, and Other Local Tax Sources for Schools, by State, 1975-76.

State	Fiscal Status: Independent Districts	Fiscal Status: Dependent Districts	Basic Aid Districts	Required Local Contribution to Basic Aid Program	Local Leeway Options	Local Non-Property Taxes
Idaho	115		115	County: 8 mills District: 22 mills	A district levy above 27 mills requires a majority voter approval, annually.	None.
Illinois	1,028		1,028	For districts seeking aid under: a) Foundation formula: Minimum tax varies between 8.4 mills and 10.8 mills depending on grade levels and size of district; b) Under Resource Equalizer formula: no minimum tax rate is specified.	By majority vote, a district may levy a tax up to State-imposed limit. Any tax rate remains in effect until altered by another successful vote.	None.
Indiana	305		305	The lesser of 30 mills or the normal tax levy.	None. Financially distressed school districts may appeal to the State Board of Tax Commissioners for a budget hearing and relief. Optional county income tax.	Districts receive a share of county excise taxes and county bank and loan taxes.
Iowa	450		450	District tax: $5.40 per $1,000, assessed at full market value.	5 percent of State average cost per pupil multiplied by the adjusted enrollment in the district may be authorized by a majority district vote. Or, districts may appeal to School Budget Review Committee for funds for specified purposes.	Half of any voter-approved leeway option is derived from surtax on income of district residents.
Kansas	306		306 income tax rebates and county flat grants, 275 equalization aid.	County: 2 mills; District: none. District chooses a per pupil budget level and sets tax rate required to yield the budgeted amount.	Authorized budget limit usually sets tax rate. This tax rate may be exceeded with the approval of State Board of Tax Appeals or by a referendum of district voters. Budget limit varies between 105 percent and 115 percent of prior year budget.	None.
Kentucky	182		182	District: 3.3 mills on equalized property values.	Unlimited with voter approval.	Tax on franchise corporation, whiskey withdrawals, and bank shares. Permissive taxes on utilities and occupations. Excise taxes.
Louisiana	66		66	District: 5 mills (13 mills for Orleans Parish).	Additional 20 mills with voter approval.	Sales taxes.
Maine		280	280	District: 13.25 mills collected as a Statewide tax.	2½ mills guaranteed to provide $125 from State and local sources.	None.

Table II. (Cont'd)

District Requirements for Basic Aid Programs, Leeway Options, and other Local Tax Sources for Schools, by State, 1975-76.

State	Fiscal Status: Independent Districts	Fiscal Status: Dependent Districts	Basic Aid Districts	Required Local Contribution to Basic Aid Program	Local Leeway Options	Local Non-Property Taxes
Maryland		24	24	Varies with district income and wealth.	Unlimited. Rates are set by local Board of County Commissioners or by the City Council for Baltimore	Local government may levy a surtax on the State income tax ranging between 20 percent and 50 percent.
Massachusetts		351	351	Varies with district wealth.	Unlimited, except in Boston where a proposed school budget can be limited by municipal authorities to currently authorized budget.	None.
Michigan	580		503	None specified; Guaranteed yield program.	50 mill maximum for all governmental units within a county.	None.
Minnesota	440		440	30 mills or a variable levy limit, based on 1970-71 per pupil costs.	Unlimited with voter approval. Limit can also be exceeded to compensate for abated taxes from previous year.	Minor miscellaneous taxes.
Mississippi		152	152	Variable: based on district index	28 mill levy limit. Levies above 25 mills require voter approval. Levies below 25 mills set by local taxing authority.	None.
Missouri	567		567	12.5 mills	Up to 37.5 mills with majority district vote. Millage levies above this amount require approval of 2/3 voters and are limited to 4 year period.	½ cent sales tax for districts with territory in Kansas City was approved by voters.
Montana	588		588	Statewide levy of 25 mills for elementary school districts and 15 mills for high school districts.	Up to 9 mills for elementary or 6 mills for high school districts, the yield of which may not exceed 25 percent of district foundation program amount, but are guaranteed by the State up to this amount. Any additional amount requires annual voter approval.	None
Nebraska	1,167		1,146	5 mills to 12 mills depending on district population and grade levels for equalization aid.	In elementary or secondary districts or in districts with a population less than 1,000, no levy may exceed 12 mills without the approval of 55 percent of those attending annual meeting. (est. 886 school districts) School authorities set unlimited levy in other districts.	None.
Nevada		17	17	7 mills on taxable property and 1% local sales tax.	Additional 9 mill levy without electoral approval allowed.	Motor vehicle tax One cent sales tax.
New Hampshire	159	9	43 foundation aid; 168 sweepstake aid.	14 mills for foundation aid, none for sweepstake aid	Unlimited with district voter approval. For fiscally dependent units, approval of the city council is required	None.

Table II. (Con't)

District Requirements for Basic Aid Programs, Leeway Options, and Other Local Tax Sources for Schools, by State, 1975-75.

State	Fiscal Status: Independent Districts	Fiscal Status: Dependent Districts	Basic Aid Districts	Required Local Contribution to Basic Aid Program	Local Leeway Options	Local Non-Property Taxes
New Jersey	598		197 equalization aid. 401 minimum support aid.	Variable: local contribution varies with district wealth.	Unlimited with voter approval. Starting with 1976-77 school year, increase in shared cost budget limited to 8.8 percent for average districts. Spending limit varies inversely with expenditures for other districts.	None.
New Mexico		88	88	95% of 8.925 mills on assessed valuation; 95% of district's share of motor vehicle license fees; 95% of P.L. 874 revenue; 95% of Federal Forest Reserve revenue; 95% of Federal regular vocational revenue.	None	None.
New York	739	5	705	15 mills on full property value.	Unlimited for independent districts with voter approval. 20 mill limit for city systems with less than 125,000. General purpose rate limit in dependent districts is 20 mills in Buffalo, Rochester, Syracuse and Yonkers and 25 mills in New York City.	Optional 3% maximum consumer utility tax for cities under 125,000. istricts may share in oceeds of local sales es. NYC: other taxes
North Carolina		148	148	None	Unlimited; levied by county commissioners for county and city school districts.	Poll taxes, dog taxes, sales taxes.
North Dakota	325		325	21 mill county levy 20 mill district levy	24 mill limit without voter approval. Levy limit may be increased up to 75 percent or specify a new mill levy limit with 60 percent voter approval in school districts with a population of less than 4,000. All other districts have unlimited leeway with simple majority vote.	None.
Ohio	613		613	20 mills	10 mills without electoral approval. Districts may vote a continuing levy for an unlimited number of years or an emergency levy up to five years.	None.
Oklahoma	456	167	623	County: 75% of a county 4 mill levy and county apportionments to districts of non-property tax collections. Districts: 20 mill levy including a 5-mill levy for Incentive Aid.	An additional 15 mills with district voter approval.	County apportionments to districts, the proceeds of motor vehicle stamp, gross production, boat and motor licenses, and REA tax.

Table II (Cont'd)

District Requirements for Basic Aid Programs, Leeway Options, and Other Local Tax Sources for Schools, by State, 1975-76.

State	Fiscal Status: Independent Districts	Fiscal Status: Dependent Districts	Basic Aid Districts	Required Local Contribution to Basic Aid Program	Local Leeway Options	Non-Property Taxes
Oregon	334		334 Flat grant, 161 (est.) Equalization aid.	For Equalization aid, local contribution varies with district wealth	Limited to a 6% increase over the highest levy within the tax base in the three prior years. This limit subject to voter override.	None
Pennsylvania	504	1	505	Varies with district wealth	Unlimited leeway on board levied property taxes for all districts except Philadelphia which is the only dependent district. Total non-property taxes may not exceed the equivalent of 12 mills on a district's current market value.	Per capita, income, amusement, real estate transfer, mercantile and occupational taxes.
Rhode Island		40	40	Varies with district wealth	25 mills	None
South Carolina	22	70	92	None	Unlimited board levies	None
South Dakota	231		231	13 mills - adjusted agricultural property, 18 mills - adjusted non-agricultural property	Local board may levy up to 40 mills for unified districts and up to 20 mills in other districts. Limit on agricultural property is 24 mills. Voter leeway: up to an additional 10 mills requiring 75% voter approval; up to an additional two mills may be levied for special education.	Taxes county poll tax, dog tax, honey, grain, sugar beet inventory taxes, 4 mill leeway on monies and credits in excess of $15,000 reported by each taxpayer.
Tennessee		147	147	Variable based on county index of taxpaying ability. 1.5 mill additional levy required for city and special school districts	Unlimited board levies.	Apportionment of county taxes on motor vehicle, cigarette, tobacco and local option sales tax.
Texas	1,009	112	Foundation aid. 1,020 Flat grants: 1121	30 mills on full market value for foundation aid.	15 mills. By district vote this limit may be lowered if a district's bonded indebtedness exceeds 7% of its assessed valuation. For common school districts, the maximum is set by State law.	None
Utah	40		40	28 mills	10 mills with voter approval	None
Vermont	245		245	Variable. based on local wealth per pupil	Unlimited with voter approval.	Poll tax.

Table II. (Cont'd)

District Requirements for Basic Aid Programs, Leeway Options, and Other Local Tax Sources for Schools, By State, 1975-76.

State	Fiscal Status: Independent Districts	Fiscal Status: Dependent Districts	Basic Aid Districts	Required Local Contribution to Basic Aid Programs	Local Leeway Options	Non-Property Taxes
Virginia		141	141	Variable· based on composit index of local ability to pay	Unlimited board levies	License taxes auto, professional, business, utility.
Washington	304		300	None. State property tax is imposed.	Unlimited with 60% voter approval required where voter turnout exceeds 40% of previous general election turnout, or where the approval is equal to at least 60% of 40% of the total votes cast in the previous election.	Real estate transaction tax Excise tax on utilities and timber.
West Virginia	55		55	1.96 mills to 7.84 mills depending on class of property.	A maximum of 2.295 to 9.18 mills depending on class of property, when set by County Boards of Education. These statutary limitations may be exceeded by 100% when approved by 60% of local votes for a period of 5 years	None.
Wisconsin	393	43	397	Unified districts: 5 mills.	Per pupil expenditures are limited to a 9.5% increase per year, except for statutorily specified programs which may be exempted by the State Superintendent of Public Instruction	None
Wyoming	50		40	County: between 4 mills and 12 mills depending on grade levels of districts within the county. An additional 3 mill levy is required for teachers' salaries and bus routes. District: 3 334 mills to 10 mills depending on district grade level.	Up to 28 mills in a unified district of which 3 mills may not be levied except with majority voter approval.	Poll taxes, motor vehicle fees.

In column 3, the number of districts receiving basic aid in each State is reported. Normally, the basic aid program refers to the equalized shared cost program except in six States (Arkansas, Connecticut, Delaware, Hawaii, North Carolina, and South Carolina) where the basic aids are flat grants.[1] States which have large flat grant programs along with equalized shared cost programs have been identified and the number of districts receiving aid under each of these programs is reported. A comparision of the number of districts in a State (reported in columns 1 and 2) with those receiving equalized basic aid (column 3) shows that most States distribute such aid to all of their districts, including the wealthiest. In effect then, these equalized aids contain a flat grant component equal to the per pupil equalized aid in the wealthiest district. The only States which exclude the wealthiest districts from receiving either a flat grant or equalized aid are Michigan, Wisconsin and Wyoming.

Required local contributions to the basic support program is reported in column 4. States with no local contributions are of course those which provide flat grants. Local contributions vary widely in other States. A minimum millage requirement is typical for States with foundation aid programs. A minimum county tax levy may be required along with a district levy. Three States impose Statewide property taxes at the present time, namely Maine, Montana and Washington.

Variable district requirements occur in States having percentage equalizing aid programs, in those States utilizing indexes of local ability as measures of local wealth, and where differing tax rates were frozen into a schedule of required local contributions in a base year. Under a percentage equalizing program, the local contribution normally varies with the per pupil budget level chosen by a district and with the ratio of a district's wealth to the State average. The formula computation requires wealthier districts to contribute a larger share to the program than the poorer ones. States with percentage equalizing programs are Alaska, Maryland, Massachusetts, Oregon, Pennsylvania, Rhode Island and Vermont. Four States, Alabama, Mississippi, Tennessee and Virginia, utilize an index of local wealth comprising factors as local sales tax revenues, auto license revenue, personal

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1/ South Carolina has enacted a foundation program effective July 1, 1978.

income taxes by county and real property values.[2] Not all of these States use the same indicators of local wealth.

States with differing local contribution rates frozen into the shared cost program are Colorado, Indiana, and Minnesota. States utilizing a guaranteed yield or guaranteed wealth base program (power equalization) stipulate no minimum district tax rate. These States are Illinois (for districts using the resource equalizer program) Kansas, and Michigan. Wisconsin and Ohio guarantee a tax base which is the heart of a power equalization program but require a minimum tax levy like any old-fashioned foundation program.

In column 5, the local leeway option amplifies the data reported in Table 1. How the State - imposed constraints work in the various States are reported in this column.

In column 6, nonproperty local tax revenues are reported. In fully half the States, no such local revenues are available. In some States, a portion of the county tax revenues are shared with the school districts. Fiscally dependent districts, of course, share all of the tax revenues available to the controlling fiscal authority. Iowa, Maryland, Indiana and Pennsylvania provide for local option income taxes for school purposes. Assorted excise taxes, inventory taxes and poll taxes are available to districts in some States. In general, local nonproperty tax revenues do not loom large as an important local source of income for public schools.

This paper has called attention to tax rate and levy controls affecting local school districts. The combination of controls existing in each State vary widely, and district fiscal status has a bearing on the type of control in place. The variety of means by which State and local districts finance their school programs has also been reported. For the shared cost basic aid programs, fixed minimum millage levies are common with foundation programs. For variable guarantee programs, the required local levy varies from none to levels unlike those associated with

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2/ Tennessee has switched to property assessments as local wealth measures, effective July 1, 1977.

foundation aid. The leeway options are important especially in States where heavy reliance is placed on local revenues for schools. District access to nonproperty taxes has been reported.

The data suggest some important research questions which can fruitfully be explored. For example, how effective has each type of rate or levy control been in curbing school expenditures? How effective have dollar revenue or expenditure limits been in narrowing the gaps between high and low spending districts? How effective have limits on levies or tax rates been in reducing property tax burdens? Other questions may well have occurred to readers. We invite your suggestions.

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